

IN THE KING COUNTY DISTRICT COURT, EAST DIVISION, BELLEVUE
COURTHOUSE IN AND FOR THE STATE OF WASHINGTON

STATE OF WASHINGTON,)	
)	NO. C439008
Plaintiff,)	
)	
v.)	
)	ELECTRONIC RECORD
TED L. JAGLA,)	TRANSCRIPTION
)	
Defendant.)	
)	
)	
)	
)	
)	

Transcript of motion hearing from April 29, 2003

THE HONORABLE JUDGE LINDA JACKE
THE HONORABLE JUDGE JUDY EILER
THE HONORABLE JUDGE ARTHUR CHAPMAN

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1 JUDGE JACKE: Good morning.

2 MR. STEIN: We have substantially more elbow room down
3 there then Your Honors do. I hope the exhibits won't crowd you.

4 MR. SCHWARTZ: Good morning Your Honor.

5 JUDGE JACKE: Good morning Mr. Schwartz. This is
6 State of Washington C439008, State of Washington versus Ted Jagla.
7 Present in court is the attorney for the State Mr. Mychal Schwartz.
8 Present as the attorney for the defendant Mr. Howard Stein, and this is a
9 panel hearing, pretrial motions. Judge Arthur Chapman, Judge Judy Eiler,
10 Judge Linda Jacke, and the defendant's presence has been waived I
11 believe.

12 MR. STEIN: It is Your Honor. I have the document if it is
13 not readily accessible to the court file. For the record I'm Howard Stein.
14 I've associated with Mr. Scott Robbins, the attorney of record for the
15 limited purposes of presenting today's argument to Your Honors.

16 JUDGE JACKE: All right, and counsel although we didn't
17 originally tell you this, we are going to allow you a five minute overview
18 before we start. Can you hand that to Debbie? A five minute overview to
19 briefly bring the issue, which we're obviously aware of, but for the record.

20 MR. SCHWARTZ: Your Honor if I could ask some
21 housekeeping questions before we actually....

22 JUDGE JACKE: Yes.

1 MR. SCHWARTZ: ...get to that. First, in terms of ruling
2 objections, are—should we directing objections...

3 JUDGE JACKE: I will be ruling on objections.

4 MR. SCHWARTZ: Okay, and I actually thought for some
5 reason that we were going to have a court reporter present. I thought
6 that—I thought that's what the local rule suggested, but to—to the extent
7 that we do have three judges and any one of you may be speaking at any
8 time, I think it would be helpful for whoever types up the record in the end
9 if we some way of identifying the judges for the record.

10 JUDGE JACKE: Yes. We will say our names before we
11 make a statement.

12 MR. SCHWARTZ: Thank you Your Honor.

13 JUDGE JACKE: But I'll be ruling on the objections during
14 the hearing.

15 MR. SCHWARTZ: Okay. Thank you. May I begin then?

16 JUDGE JACKE: Pardon?

17 MR. SCHWARTZ: May I begin?

18 JUDGE JACKE: Yes. Did you have any preliminary
19 issues Mr. Stein?

20 MR. STEIN: No Your Honor.

21 JUDGE JACKE: All right. Mr. Schwartz go ahead and
22 begin with a five minute overview.

1 MR. SCHWARTZ: Thank you Your Honor. Mychal
2 Schwartz on behalf of the State. May it please the court, counsel, as—as
3 the court indicated the issue is not unknown to the courts. This is at least
4 an issue whose genesis began quite some time ago in 2001. We all recall
5 the quote, unquote “thermometer issue” which was resolved ultimately by
6 the Supreme Court in the City of Seattle versus Allison. This is really an
7 offshoot of that, and I don’t dispute what Mr. Stein says that it is also an
8 offshoot of a DOL case, DOL v. Cannon which was heard about the same
9 time as the City of Seattle versus Allison matter. The question before the
10 court is what is the meaning and what is the implementation for WAC 448-
11 13-035. That section, it will become apparent to the extent that it isn’t
12 already, was adopted by the State Toxicologist in response to the original
13 thermometer issue. It was, it turns out, an exercise in over cautiousness
14 as the Supreme Court ultimately said that the thermometer issue was
15 really no issue at all. Put it in an exercise of caution and you’ll hear that
16 that is a benchmark of the breath test program here in the State of
17 Washington. They try to do more. They try to be more careful, create
18 more paper trail so that they can be open for inspection. The defense has
19 the opportunity to challenge—to make these types of challenges, to
20 challenge the accuracy and reliability of breath tests. So in an exercise of
21 that cautiousness Dr. Logan promulgated 448-13-035, and you’ll hear that
22 there are two parts to that WAC. There is a certification of the
23 thermometers that was actually in the Datamasters, in the simulator

1 solution, and that was the issue in the old thermometer issue. And then
2 there is the second part of the WAC which talks about the reference
3 thermometer, the thermometer that is actually used to check the mercury
4 in glass thermometer that is used on the breath test.

5 Now, what will become clear through the testimony of Dr.
6 Logan is that—well, a number of things will become clear. A, he is the
7 delegated authority from the legislature to supervise breath testing in the
8 State of Washington. At no time did he abrogate his authority. At no time
9 did he step aside and allow another agency to take that authority. In fact,
10 what is also clear is that at the time 448-13-035 was adopted he made it
11 clear in his commentary that was associated and attached to the order
12 exactly what was expected. The fact—and within the scientific community
13 of breath testing what we have, the protocols that we have, the system
14 that we have for testing the thermometers, for certifying the thermometers
15 is a reasonable system. To expect the breath testing section to do
16 otherwise is unnecessary and would be overly burdensome.

17 Finally, what we have is we have an expert who will be
18 testifying for the defense, and I have no quarrel with virtually any of the
19 expected testimony of Dr. Emery, but from the State's perspective what
20 the court should take note of is that Dr. Emery is not a toxicologist. He
21 has no authority from the State of Washington, and he is a preeminent
22 scientist in his field I have no doubt, but his field is not breath testing. His
23 field is, at least in part, thermometry, and that is not the scientific

1 community at issue today. The question before the court is, is the
2 methodology used by the State Toxicologist and the Breath Test Section
3 reasonable and appropriate to do one thing, and that is to accurately and
4 reliably test breath of suspected drunk drivers in the State of Washington.
5 Thank you.

6 JUDGE JACKE: One minute Mr. Schwartz.

7 MR. SCHWARTZ: Thank you. I have nothing further.

8 JUDGE JACKE: Nothing further? Okay. Go ahead Mr.
9 Stein.

10 MR. STEIN: Thank you Your Honors. The parties agree,
11 and I hope that the issue is in focus for the court that this issue really only
12 applies to the second portion of 448-13-035 where the WAC says that the
13 certification of the solution thermometers shall be performed using a
14 reference thermometer traceable to standards maintained by the NIST.
15 That's the language of the WAC adopted both by emergency process and
16 by permanent process after public comment. If there is no ambiguity in
17 that—in that phrase, in that WAC we need do no more than go to the
18 definition of the standard. It is our position there is no ambiguity in the
19 terminology traceable to standards maintained by NIST. It's a technical
20 term. It's a scientific term. It is universally (inaudible) locally accepted to
21 mean that one must have an unbroken chain of comparisons from the end
22 user, the Washington State Patrol reference thermometer, to the NIST
23 standard. It took me a year to understand that the NIST standard is not a

1 protocol or a procedure. The NIST standard is a real thing. It is the most
2 accurate thermometer known to man. It is a standard platinum resistance
3 thermometer maintained by NIST, certified by NIST, calibrated by NIST
4 and held under the authority of the federal legislature Article One, Section
5 One, paragraph eight as the national, and also the international, standard
6 for temperature measurement in this country, in the world. It is the
7 absolute standard for temperature measurement. For any thermometer to
8 be traceable to that standard you must do certain things. Those things are
9 defined by the National Institute of Standards and Technology and—
10 where it defines the term traceability and every scientist in every field
11 knows what they are. The field, the scientific field of breath testing is not
12 outside the scientific community, and Your Honors will hear the term today
13 metrology. Metrology is the science of measurement, and metrology
14 permeates, (inaudible), and consists of every other scientific field in which
15 measurement takes place, and within the field of metrology, within every
16 scientific field, the term traceable to standard maintained by NIST. is
17 universally known, accepted and understood. There is absolutely no
18 ambiguity with regard to this term.

19 What it requires, as I've indicated, is an unbroken chain of
20 comparison, each stating uncertainty or a confidence interval from the end
21 user, State Patrol, to National Institute of Standards and Technology. And
22 you'll hear from Dr. Emery exactly what uncertainty is, how one calculates
23 uncertainty, but in order to understand uncertainty the basics as I

1 understand them are if we state plus or minus .1 degree, that is a
2 systematic error and it is meaningless without a statement of uncertainty.
3 Uncertainty being the frequency that that measurement occurs. Does it
4 occur 66 percent of the time, the first standard deviation? Ninety-five
5 percent of the time when you go and measure do you get a reading plus
6 or minus .1, the second standard deviation, or 99 percent of the time? If
7 you don't know the frequency that that systematic error occurs you don't
8 know anything about the measurement. It is arbitrary. It is a single
9 observed reading with only antidotal benefit. It has no scientific value, and
10 it does not meet the standards and the definitions of traceability to NIST.

11 In a nutshell we are saying as you will see from the
12 stipulated testimony that the Washington State Patrol relied on a third
13 party to certify its digital reference thermometers to standards traceable
14 by—to NIST. That third party, Bostec Inc., failed to do it. That third party
15 did not have a scientific degree, did not have a laboratory, did not know
16 that NIST. standards even existed for certification of the thermometer to
17 standards maintained by NIST. Unfortunately that is who the State Patrol
18 chose to do this job, and...

19 JUDGE JACKE: One minute.

20 MR. STEIN: ...they failed to do it. Thank you. The final
21 issue is whether subsequent certification which occurred on 3/11 of this
22 year, as these motions were pending for hearing, can be related back, can
23 be essentially backdated to show you that these things occurred, and I

1 would ask you to read carefully 448-13-040 which says at the time of the
2 breath test the operator shall observe the thermometer certified pursuant
3 to 448-13-035, which means certified by a thermometer calibrated and
4 certified to standards maintained by NIST. That did not occur. It could not
5 have occurred because the certification attempt occurred six months after
6 the breath test. Thank you.

7 JUDGE JACKE: Thank you very much Mr. Stein. Mr.
8 Schwartz. Go ahead.

9 MR. SCHWARTZ: Thank you. Your Honor at this time the
10 State calls Dr. Barry Logan.

11 JUDGE JACKE: Dr. Logan do you want to step forward
12 sir. Raise your right hand. Do you swear you'll testify truthfully in the
13 matter before this court?

14 DR. LOGAN: I do.

15 JUDGE JACKE: Have a seat.

16 MR. SCHWARTZ: Your Honor does the court mind if I stay
17 seated while...

18 JUDGE JACKE: No. Go right ahead.

19 MR. SCHWARTZ: ...questioning? Thank you Your Honor.
20

21 DIRECT EXAMINATION

22 (BY MR. SCHWARTZ)

1 Q. Good morning Doctor. Could you please state your name and spell your
2 last name for the record?

3 A. My name is Barry Logan spelled L-O-G-A-N.

4 Q. And Dr. Logan what is your business address?

5 A. Washington State Toxicology Laboratory, 2203 Airport Way South,
6 Seattle, Washington, 98134.

7 Q. And how are you employed?

8 A. I'm the Bureau Director of Forensic Laboratory Services for the
9 Washington State Patrol. I also have the duties of State Toxicologist.

10 Q. And how long have you had those duties?

11 A. I've been State Toxicologist since July of 1990, and I was appointed as
12 Bureau Director of the labs in July of 1999.

13 Q. And how did—how did you become State Toxicologist?

14 A. At the time I was appointed, the appointment was a faculty position at the
15 University of Washington. There was a panel of people who interviewed
16 candidates. They were members of the State's forensic—sorry, at that
17 time death investigations counselor. It was competitive, open position that
18 I applied for as well as selected for.

19 Q. And what—can you describe your background, your educational
20 background?

21 A. I have a Bachelor's degree in Chemistry, a Ph.D. in Forensic Toxicology,
22 both from the University of Glasgow in Scotland. I have been working in
23 the field of forensic toxicology for approximately 20 years. I have—I'm

1 board certified by the American Board of Forensic Toxicology. I'm a
2 member of their executive board. I'm a member of a variety of
3 professional organizations in forensic science. The American Academy of
4 Forensic Sciences, Canadian Society of Forensic Sciences, the Society o
5 Forensic Toxicology in the National Association of Forensic Toxicologists,
6 the National Council on Alcohol, Drugs and Traffic Safety, and a variety of
7 others. I'm actively involved in those. I attend their meetings. I make
8 professional scientific presentations in those meetings. I have a
9 publication of some 70 peer review publications in the analytical
10 toxicology—thank you—in the analytical toxicology and forensic toxicology
11 literature. I'm a member of the editorial board of the general forensic
12 sciences and the general of analytical toxicology. I continue to have my
13 faculty appointment at the University of Washington where I teach classes
14 in forensic toxicology and analytical chemistry.

15 Q. And do you—have you had any publications?

16 A. Yeah. I have about 70—approximately 70 peer review publications.

17 Q. And have besides the Bachelor's degree and the Ph.D. and that you hold,
18 have you had any further continuing education in your field?

19 A. Yes. I regularly attend scientific meetings of the organizations that I listed
20 where I have—where I frequently teach continuing education classes, and
21 participate in those courses as a student.

22 Q. As part of your duties as State Toxicologist what is your role with regard to
23 breath testing within the state?

1 A. One of the divisions that I oversee is the Breath Test Section, the implied
2 consent section of the Washington State Patrol. I—I'm responsible for the
3 management of the division. There is a Lieutenant who oversees that.
4 There are two Sergeants, one of whom is Sergeant Gullberg who is
5 specifically responsible for the breath test program. I review and approve
6 methods that are developed within the breath test program for the
7 operation of the breath test instrument, and the breath test program in the
8 State of Washington, and I drafted, promulgate and adopt provisions in the
9 Washington Administrative Code for the conduct of evidential breath
10 testing in Washington State.

11 Q. With regard to your role as, can I say overseer of the breath testing in the
12 state, are you familiar with breath testing in other states as well?

13 A. Yes.

14 Q. And how is it that you are familiar with breath testing in other states?

15 A. Through my involvement in professional organizations. I also periodically
16 make visits to other state programs and review what they are doing in the
17 context of what we are doing to make sure that we are—the procedures
18 we are applying are consistent with those in widespread use in the
19 breath testing community.

20 Q. And in terms of that investigation what have you found generally?

21 MR. STEIN: Objection. Relevance.

22 JUDGE JACKE: Overruled.

1 A. That Washington State has a program that is, I would classify it as a state
2 of the art program. We have many more procedures and safeguards in
3 place to ensure the accuracy and reliability of our tests than many other
4 states do. We have a comprehensive test protocol. For example, we test
5 each subject twice, we run a simulator test with every breath test. Most
6 states do not do both of these things. We have an annual quality
7 assurance inspection of the instrument where we conduct a variety of
8 different tests to ensure its accuracy and reliability at several different
9 levels. Very few state breath test programs have an annual inspection of
10 their instruments.

11 MR. STEIN: Your Honor I apologize for interrupting the
12 response, but I would indicate that on at least three occasions I have
13 requested from the State a synopsis pursuant to 4.7 of a summary of
14 testimony of what the witnesses would testify. The existence, qualitative
15 nature of other breath testing programs in other states and a comparison
16 of those to Washington State was never part of what the State disclosed
17 would be elicited from this or any other witness, and so I am at a
18 disadvantage because I have no ability now to analyze whether this is
19 accurate or to be able to cross-examine this witness when it has never
20 been disclosed. My first request was February 28th. My second request
21 was March 11th and again on March 21st. After this hearing was continued
22 I continued to request those summaries from the State and I received one
23 paragraph last Friday which did not include any indication that other

1 breath testing programs would be part of the testimony before you, and so
2 in addition to my objection to relevance I am now asking that the court
3 terminate this line of inquiry because it have not—it does not comply with
4 4.7.

5 JUDGE JACKE: Overruled. This particular testimony will
6 not be critical to the court's ruling in this case. Go ahead.

7 A. Finally, I was going to say that we have instituted inter-breath test program
8 proficiency test program where both our technicians and instruments
9 throughout the state are compared against each other and against
10 different instruments in different states and different countries to ensure
11 that they results that are being produced by our breath test equipment and
12 program are accurate and reliable and can be repeated from instrument to
13 instrument and program to program.

14 Q. Thank you. Dr. Logan you've indicated that part of your role in supervising
15 the breath testing is adoption of the Washington Administrative Code that
16 is related to breath testing is that true?

17 A. Yes.

18 Q. Could you describe generally speaking how the Administrative Code
19 becomes adopted? What is the adoption process?

20 MR. STEIN: Objection. Legal—it calls for a legal opinion
21 Your Honor.

22 JUDGE JACKE: Overruled.

1 A. It's—over my twelve years or thirteen years in being involved in this, that
2 process has changed. However, the current process requires what is call
3 a prepublication or a pre-adoption statement of intent which is published in
4 the state register indicating that an agency has an intent to change a
5 portion of the Administrative Code and what that is, what section that is,
6 and to ask for inquiry. After that is published in the state register and a
7 waiting period a second notice is published with the specific proposed
8 amendments to the Administrative Code along with a notice of hearing
9 date. There is a period that is allowed for public comment prior to the
10 hearing, and then any comment taken at the hearing is considered by the
11 agency, in this case myself in adopting the proposed changes, any
12 revisions to the changes based on input received at the hearing is then
13 published in the state register along with a response to comment received,
14 and ultimately after a waiting period the rule is finally adopted, then
15 becomes effective. It takes, depending on the timing of when the
16 publication dates of the register are, it can take anywhere from six to nine
17 months to change without going through the emergency procedure to
18 make a change in the Administrative Code.

19 Q. In passing you mentioned the emergency procedure. So there are
20 procedures to do this quicker?

21 A. There is a—there is a procedure that allows an agency to publish a
22 change if the agency believes it can justify it as an emergency, if there is a
23 public safety or a public imperative that requires it to happen straight

1 away. Once that change is published it becomes—as soon as it is
2 published it becomes effective, but the agency then has to go through the
3 rest of the process through the public hearing, the public comment period,
4 before the emergency rule becomes permanent.

5 Q. And is there an expiration of an emergency rule?

6 A. Yes. I don't recall how long that is. Maybe 180 days.

7 Q. Okay. Thank you. Do you recall the events surrounding the adoption of
8 Washington Administrative Code provision 448-13-035?

9 A. Yes.

10 Q. Can you describe to the court, within the time frame, what was—what was
11 occurring at the time that that was adopted?

12 A. I'm not—I don't fully recall all the dates of the events that led up to that at
13 present, but generally in preparing for my approval for a new version of
14 software for the Datamasters back in, I believe, 2000 I was overseeing
15 some testing of the instruments with the new software in it, and we
16 discovered during that process that some of the thermometers that were in
17 use in the simulators were not accurate. They had lost their accuracy over
18 time. That was surprising to me because the thermometers we had
19 bought had come with certificates indicating their accuracy from the
20 manufacturer, and I was not aware that a mercury in glass thermometer
21 would lose its accuracy over time, however, evidently that does occur.
22 When that was discovered I instituted some protocols to document which
23 thermometers were being used on which breath test instruments. We

1 replaced the faulty thermometers with new thermometers whose accuracy
2 had been checked according a protocol that was instituted comparing
3 thermometers against an electronic digital reference thermometer. There
4 was litigation going on regarding the process that I had endorsed for the
5 exchange of the thermometers. That was heard in Renton District Court.
6 The judges en banc in Renton suppressed breath test results based on
7 the State's apparent inability to show the accuracy of the thermometer
8 within plus or minus .2 degrees based on testimony received and the
9 protocols that we had in place at the time. As a result I made some
10 emergency changes—as a result of that ruling I made some emergency
11 changes to the Administrative Code that put into quote the requirement
12 that basically what the—the practice that was already in place, that the
13 thermometers were being checked annually and that they were required to
14 be checked annually. I also changed the window within which the
15 temperature had to be verified to be plus or minus .3 degrees since the
16 protocols that we had in place were designed to have—to be able to show
17 that the thermometers had an inaccuracy of no more than one-tenth of a
18 degree. The potential for having all breath tests suppressed statewide I
19 believe constituted an emergency. I used the emergency adoption
20 process for that change in the Administrative Code. Ultimately the
21 changes were adopted through the permanent rule making process. The
22 emergency adoption of the WAC at one point was challenged, and that
23 was—my use of the emergency procedure was upheld on appeal.

1 Q. Let me—let me stop you there and kind of bring in another question.
2 You've indicated that contemporaneous with the promulgation of the
3 emergency version of 448-13-035 you also began the process of
4 permanently amending 035 is that...

5 A. Yes. Yes.

6 Q. And did that process take place in the way you've already described in
7 terms of it is rather lengthy with advising comment periods?

8 A. Yes.

9 Q. And did you hold any hearings during the advise and comment period?

10 A. Yes.

11 Q. Did you take role and written questions during that period?

12 A. Yes.

13 Q. Did any of those—well, let me ask, in the emergency and permanent
14 version of 448-13-035 did the language of the WAC contain—did it contain
15 the reference to—well, let me quote, did it—did both versions indicate that
16 such certification, meaning the certification of the mercury in glass
17 thermometers, shall be made using a reference thermometer traceable to
18 standard maintained by the National Institute of Standards and Testing,
19 NIST, or its successor?

20 A. Yes.

21 Q. And were there any questions or comment related to that section?

22 A. Yes.

23 Q. And what were those questions?

1 MR. STEIN: Your Honors I'm sorry to continue to object. On
2 this line of questioning, unless and until the court finds ambiguity in the
3 WAC, there is no relevance to the Washington State Registry. There is no
4 relevance to the legislature or in the case the executive agency's opinions,
5 purposes in the rule making process. It is our argument that there is no
6 ambiguity, and if there is no ambiguity this entire line of questioning is
7 irrelevant.

8 JUDGE JACKE: This court finds there is ambiguity so the
9 testimony will be allowed. Go ahead.

10 Q. Was—was there questions and comments related to the issue of NIST as
11 it related to 035?

12 A. Yes.

13 Q. And were your responses noted in writing anywhere?

14 A. Yes.

15 Q. And where were they noted?

16 A. They were published in the state register at the time of the permanent
17 adoption of the WAC.

18 Q. At the same time?

19 A. Yes. Yes. As part of the same filing.

20 MR. STEIN: While there is a pause Your Honor, with all due
21 respect to the court, I would object to the court making the finding of
22 ambiguity before there was argument on the issue.

1 JUDGE JACKE: The court needs the information on that
2 to make an informed decision. At this point we are deciding there—we do
3 need further information and evidence on that. So that is why this line of
4 questioning is allowed.

5 MR. STEIN: I understand that. I understand the court—
6 Your Honor to be saying it's admissible under ER 104(a) so you can make
7 the determination...

8 JUDGE JACKE: There is sufficient ambiguity in this
9 court's opinion that we need additional evidence.

10 MR. STEIN: All right. Thank you for the clarification Your
11 Honor.

12 JUDGE JACKE: Thank you.

13 MR. STEIN: I just wanted to be clear on where we were at.

14 JUDGE JACKE: Go ahead Mr. Schwartz.

15 MR. SCHWARTZ: Thank you.

16 Q. Dr. Logan specifically was there a question related to whether or not the
17 thermometer certification protocol was based on NIST standards?

18 A. Yes.

19 Q. And do you recall what your response to that was?

20 A. Not verbatim, but it was that we were—I was not requiring the Breath Test
21 Section to follow a protocol specified by NIST, but that we were creating a
22 chain between the mercury in glass thermometers used in the state's
23 program and as Mr. Stein indicated earlier, the ultimate standard or

1 reference value for temperature, the platinum resistance thermometer
2 maintained by NIST.

3 MR. STEIN: May I voir dire Your Honor?

4 JUDGE JACKE: Go ahead.

5
6 VOIR DIRE OF DR. LOGAN

7 (BY MR. STEIN)

8 Q. Dr. Logan, do I understand that with regard to this point you are saying
9 that the protocol procedure that is performed by the Washington State
10 Patrol in house, the actual use of the DRT, or reference thermometer to
11 check or to list a certified, according to your language, mercury in glass
12 simulator solution thermometer, that is the portion that does not require
13 NIST procedure, protocols and standards, right? Is that—is that what you
14 are saying here today?

15 A. Yes. Well, I'm saying that that portion does not require the Breath Test
16 Section to follow a protocol promulgated by NIST.

17 Q. That's an internal working?

18 A. That's correct.

19 Q. It's not the State Patrol that certifies the DRT's? The State—the
20 Washington State Patrol does not certify its own digital reference
21 thermometers, correct?

22 A. That's correct, yes.

1 MR. STEIN: Thank you. Nothing further. Thank you Your
2 Honor.

3 JUDGE JACKE: Go ahead Mr. Schwartz.

4 MR. SCHWARTZ: Thank you.

5 (Resume direct examination of Dr. Logan by the prosecutor, Mr. Schwartz.)

6 Q. With regard to, again, the language found in 448-13-035 Dr. Logan, would
7 you agree—are there two essential components to that section of the
8 Washington Administrative Code?

9 A. Yes.

10 Q. And how would you divide the components of that WAC?

11 A. Rather than try to recall the exact language I would like to see a copy of
12 that section.

13 MR. SCHWARTZ: (Inaudible) I have a bunch.

14 MR. STEIN: (Inaudible) with the statutes and the cases.

15 Oh, it's right here. You just want 035?

16 MR. SCHWARTZ: 035.

17 MR. STEIN: Why don't you take the whole package.

18 MR. SCHWARTZ: Thank you.

19 COURT CLERK: Exhibit A marked for ID.

20 MR. STEIN: Yes of course.

21 MR. SCHWARTZ: May I approach?

22 JUDGE JACKE: Yes.

1 Q. Dr. Logan I'm showing you what's been marked for identification purposes
2 as plaintiff's exhibit A. Do you recognize what that is?

3 A. Yes.

4 Q. And what is plaintiff's exhibit A?

5 A. It's WAC 448-13-035.

6 COURT CLERK: Could you say the last three numbers
7 again?

8 DR. LOGAN: Sorry. 035. 035.

9 COURT CLERK: Thank you.

10 Q. I'll give you a moment to take a look at that, and let me know when you
11 are done.

12 A. Okay.

13 Q. Having looked at that does that refresh your memory as to the precise
14 language found in that Administrative Code provision?

15 A. Yes.

16 Q. And you've previously testified that you would divide it into really two
17 sections. Now remembering what the language, the specific language of
18 the code is, how would you divide it?

19 A. I don't know that I'd divide it into two sections, but it deals with two issues.
20 The first is that it's a direction or requirement for the thermometers used in
21 the simulators to be certified on an annual basis, to have an accuracy
22 (inaudible) plus or minus .1 degrees centigrade. The second issue is that
23 the certification, that certification of those thermometers shall be made

1 using a reference thermometer traceable to standards maintained by the
2 National Institutes of Standards and Testing, NIST, or its successor.

3 Q. So, I asked—this may be the same question that Mr. Stein asked
4 previously, but is there any requirement that the testing of the simulator
5 solution thermometers, the mercury in glass thermometers, that it follow
6 any type of protocol, at least—I'm sorry let me rephrase that. Is there any
7 requirement that it follow any protocol designed by anyone other than
8 yourself and the Breath Test Section?

9 A. No.

10 Q. Okay. Can you tell me Dr. Logan what is—what is the purpose of the
11 thermometer that is used in the simulator solution?

12 A. It's used to be able to show that the temperature of the simulator was
13 approximately 34 degrees at the time they breath test was conducted.

14 Q. And why is that significant?

15 A. Well, let me back up just one step. The purpose of the simulator is to
16 provide a known vapor ethanol standard to the Datamaster at the time of
17 the subject's breath test to show that it is operating accurately at the time
18 the subject's test is conducted. The vapor ethanol concentration is a
19 function of the concentration of ethanol in the simulator solution and the
20 temperature at which it is maintained as the ethanol transfers from the
21 water part to the air (inaudible) space above the solution as air is blown
22 through the simulator. The—so there is a relationship between the
23 temperature of the simulator and the concentration of ethanol as provided

1 to the instrument which is used to check its reliability. The—at 34 degrees
2 the solution concentration is prepared to have a vapor concentration of
3 approximately .08.

4 Q. And what effect, if any, to the extent that you're prepared to answer this,
5 what effect, if any, does the temperature of the simulator solution have on
6 the accuracy and reliability of the Datamaster's presentation of the
7 subject's sample?

8 A. Well, the subject sample temperatures are not measured by those
9 thermometers, or any other thermometers, during the conduct of the
10 breath test. So, it doesn't have any effect on the subject samples that are
11 provided to the instrument. Obviously there is some relevance to the
12 temperature otherwise we wouldn't be measuring it, but it is not critical
13 that the temperature be exactly any particular value, which is why there is
14 a range of plus or minus .3 degrees allowed for the temperature at the
15 time of the test. A difference of a half a degree even, which is outside of
16 our permissible range, of the solution at the time of the test would
17 contribute a .08 solution an error of—there is a .5 degree error in the
18 thermometer it would contribute a .0024 BAC error to the test. So it is in
19 the third decimal place.

20 Q. Is that a significant error in terms of breath testing?

21 A. No. It's—there is far more variability just from two breaths that a person
22 might provide than is in—that you find in the third decimal place even with
23 a half of a degree difference. With a tenth of a degree difference, which is

1 the standard implied in the program, the—any error introduced by a tenth
2 of a degree gets down into the fourth decimal place. So it has—trying to
3 pin down the exact temperature of the thermometer, or the exact accuracy
4 of the thermometer, to anything less than a tenth of a—excuse me, to
5 anything less than one tenth of a degree is irrelevant to the Datamaster's
6 ability to measure how much alcohol is in the sample from the simulator
7 being provided to it, never mind the subject's breath, which isn't even
8 measured by the temperature—by the thermometer.

9 Q. Thank you. Now—so that describes the purpose of the thermometers
10 used in the simulator. What about what is the purpose in terms of
11 breath—the breath testing program of the digital reference thermometers?

12 A. It is to ensure that we don't end up in a situation again where we are using
13 thermometers that are inaccurate as we found back in 2000 by as much
14 as half a degree. That we apply what I believe is an appropriate standard
15 to ensure that the thermometer, the error in the mercury glass
16 thermometers doesn't vary by more than one tenth of a degree.

17 Q. Are the digital reference thermometers designed to express a greater level
18 of accuracy than the mercury in glass thermometers?

19 A. Yes.

20 Q. And could you—could you elaborate on that?

21 A. Um...

22 Q. Well, let me—maybe I'll ask a more specific question. The mercury in
23 glass thermometers found in the simulator solutions, what—what's the

1 breakdown in terms of the markings on the thermometer? How—how is it
2 divided?

3 A. The thermometer is marked, calibrated at 34 degrees centigrade and
4 there are graduations or divisions of tenths of a degree up to .5, 34.5 and
5 then to 33.5.

6 Q. So the actual lines on the thermometer are at one tenth intervals?

7 A. Yes.

8 Q. On the digital reference thermometers, does it go beyond the tenths
9 place?

10 A. Yes it does.

11 Q. How far out does it go?

12 A. It goes down to hundredths of a degree.

13 Q. And in what way—strike that. When—when this problem was discovered
14 at the Breath Test Section you indicated that you adopted protocols with
15 regard to testing, is that true?

16 A. Yes.

17 COURT CLERK: Plaintiff's B marked for ID.

18 MR. STEIN: Have you got extra? I'm sure I have it I just—
19 as a courtesy. Let me make sure we're looking at the same one
20 (inaudible). A single page?

21 MR. SCHWARTZ: Yeah. I have two copies of it.

22 MR. STEIN: All right. That's what I was wondering because
23 I have it as a single page and you had multiple pages there.

1 MR. SCHWARTZ: No we have (inaudible).

2 MR. STEIN: Okay.

3 MR. SCHWARTZ: May I approach him?

4 JUDGE JACKE: Yes.

5 Q. Dr. Logan I'm showing you what has been marked for identification
6 purposes as plaintiff's exhibit B. Do you recognize that document?

7 A. Yes.

8 Q. What is that document?

9 A. This is the simulator thermometer certification policy and protocol from the
10 Breath Test Section.

11 Q. And...

12 A. And it was dated September 13th, 2002.

13 Q. And kind of perhaps in laymen's terms what is that?

14 A. It describes the policy, meaning the frequency with which the
15 thermometers are to be certified for accuracy, and the protocol which is
16 the process through which the thermometers have to go to meet that
17 standard.

18 Q. Is this protocol—was this protocol adopted—strike that. WAC 448-13-035
19 proscribes that the mercury in glass thermometers be certified annually is
20 that—that true?

21 A. Yes.

22 Q. How does that requirement relate to the policy and protocols noted in
23 plaintiff's exhibit B?

1 A. The thermometers, any of the thermometers used in the breath test
2 program, and in fact not just the ones used on the instruments for a
3 simulator, but also the ones used for the—doing quality assurance
4 procedure have to be certified at least once a year. So once a year they
5 have to have their accuracy checked against the digital reference
6 thermometers that the State Patrol has purchased.

7 Q. And is the policy and protocols that you have in plaintiff's exhibit B, the
8 method by which the testing is done?

9 A. It's the method by which the testing of the mercury in glass thermometers
10 is performed by the technicians of the Breath Test Section, yes.

11 MR. SCHWARTZ: I would offer exhibit B.

12 JUDGE JACKE: Any objection?

13 MR. STEIN: No Your Honor.

14 JUDGE JACKE: B is admitted.

15 Q. Dr. Logan, going back to the language of 448-13-035, specifically the
16 second part dealing with the reference thermometers, is there any similar
17 language used from the first part? The first part indicates that the testing
18 must be done on an annual basis, correct?

19 A. Yes.

20 Q. Is there anything in the second part dealing with the reference
21 thermometers suggesting that it has to be done in any specific time?

22 A. No there is not.

23 Q. Does exhibit B that was admitted incorporate NIST in any way?

1 A. No.

2 Q. Would it be practical in your opinion for it to have?

3 A. No.

4 Q. Why not?

5 MR. STEIN: Same objections Your Honor. I—the—I just
6 hope to be clear that I will have an ongoing objection to the—Dr. Logan's
7 opinions with regard to the meaning of 448-13-035, and specifically the
8 second section thereof.

9 JUDGE JACKE: Overruled.

10 A. What the technicians, or in fact the operators of the breath test
11 instruments are doing at the time they conduct the test is not trying to
12 determine exactly what the temperature of the simulator solution is.
13 Simply that it is within a defined range. The practice or the policy that was
14 put in place, the protocol that was put in place is designed to meet that
15 requirement. Certainly we could have done—I could have made many
16 more requirements on that, but it would have been far in excess of what is
17 required to meet the purposes of this program.

18 Q. And to the best of your knowledge does the Breath Test Section have the
19 capability—well, strike that.

20 MR. SCHWARTZ: I think I have no—no other questions at
21 this time Your Honor.

22 JUDGE JACKE: Mr. Stein?

23 MR. STEIN: Thank you.

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CROSS-EXAMINATION

(BY MR. STEIN)

Q. Good morning Dr. Logan.

A. Good morning.

Q. Sir, I understand you have a Ph.D. in Toxicology, correct?

A. Yes.

Q. Does that field involve the use of scientific measurement?

A. Yes.

Q. And would it be fair to say that the field of breath testing also involves the use of scientific measurement?

A. Yes.

Q. And is there—is there a technical name for the science of measurements? Is it also known as the science of metrology?

A. It can be, yes.

Q. Now with regard to 448-13-035 you originally adopted this as an emergency code, is that correct?

A. Yes.

Q. And then subsequently you followed the—you filed the same language as a proposed permanent code?

A. Yes.

Q. All right. Within that WAC as we've stated, or as you've indicated earlier I believe there are two sections essentially? We're talking about 035.

1 A. Yes.

2 Q. One is the annual certification or checking of the mercury in glass
3 simulator thermometer on an annual basis?

4 A. Yes.

5 Q. The second part is a requirement that that certification shall be made
6 using a reference thermometer traceable to standards maintained by the
7 National Institute of Standards and Testing parens (NIST.) end parens or
8 its successor.

9 A. Yes.

10 Q. Is that correct? All right. Now, are you familiar with a federal agency
11 known as NIST?

12 A. Yes.

13 Q. And is its true and correct name the National Institute of Standards and
14 Technology?

15 A. Yes.

16 Q. And is that the institute that you meant when you adopted this WAC
17 stating that the thermometer shall be traceable to standards maintained by
18 the National Institute of Standards and Testing?

19 A. Yes.

20 MR. SCHWARTZ: I guess I'll object, make the same
21 objection that Mr. Stein was objecting. He can't have it both ways. Either
22 the court will listen to what Dr. Logan's intent was or they won't. By

1 opening the door I would suggest that the court has already made the
2 correct ruling that his intent is relevant.

3 JUDGE JACKE: Overruled. Go ahead.

4 Q. To your knowledge is there anything known as the National Institute of
5 Standards and Testing?

6 A. Not to my knowledge.

7 Q. Okay, and so in this reference to NIST you are referring to the federal
8 agency?

9 A. Yes I am.

10 Q. The agency directed by Congress? The Federal Congress?

11 A. Yes.

12 Q. Yes. All right. Thank you. Now with regard to this phrase traceable to
13 standards maintained by NIST that is included within 448-13-035, would
14 you agree that that is a technical term?

15 A. Yes.

16 Q. It is a scientific term?

17 A. Yes.

18 Q. And would you agree that it is a term that is generally accepted in the
19 scientific communities?

20 A. The term traceability?

21 Q. No the term—the phrase traceable to standards maintained by NIST. Is
22 that a phrase that has general acceptance within the various scientific
23 communities?

1 A. Yes.

2 Q. All right. So it is a phrase used by scientists throughout the country in
3 various endeavors?

4 A. Yes.

5 Q. Including toxicology?

6 A. Generally not in toxicology.

7 Q. And in the fields regarding metrology would you agree?

8 A. Yes. Yes I would.

9 Q. And metrology again is—is the science of measurements?

10 A. Yes.

11 Q. So when a toxicologist uses measurements he used metrology does he
12 not?

13 A. Yes. NIST—NIST doesn't maintain the types of standards that are used
14 for toxicological measurements so that is the distinction I'm trying to make.

15 Q. Okay. So the toxicologist—if a toxicologist wishes to take a temperature
16 measurement that would be a metrology—a metrological measurement,
17 right? Within the field of metrology?

18 A. It could—it could be described that way, yes.

19 Q. And NIST does maintain the standards for temperature does it not?

20 A. For temperature, yes.

21 Q. Now, do you still have before you or did Mr. Schwartz give you a copy of
22 the Washington State Registry regarding the adoption of 448-13-035?

23 A. No.

1 MR. STEIN: May I then have, for illustrative purposes,
2 marked as defense (inaudible).

3 COURT CLERK: This is C.

4 MR. STEIN: We may go double A's then.

5 Q. So, what has now been marked as defense C, could you just take a
6 minute to review it? I'm going to ask you some specific questions about a
7 particular paragraph, but when you familiarize yourself with what D-3 is
8 please let me know.

9 A. This is a printout from court advisor's website of the publication of
10 Washington State Register 0117009 which was my permanent adoption of
11 rules including WAC 448...

12 Q. Does it appear to be an accurate copy of the public comments and
13 responses of the Washington State Toxicologist regarding the adoption of
14 448-13-035?

15 A. Yes.

16 Q. All right. Let me ask you to go to page two of five, and about two-thirds of
17 the way down that you'll see a paragraph that begins the language used in
18 WAC 448-13-035, do you see that?

19 A. Yes.

20 Q. All right. Now the first sentence, if you'll follow with me, says the language
21 used 448-13-035 referencing quote "standards traceable to NIST"
22 unquote, is vague. That was the public comment, correct?

23 A. Correct.

1 Q. And in your response to that public comment asserting that this language
2 was vague, what did you say sir?

3 A. The concept of traceability to a reference standard is a common principle
4 in measurement science. Do you want me to read the whole...

5 Q. Yes please.

6 A. ...section? It describes a notion that there is an absolute standard for
7 temperature maintained by the National Institute of Standards and
8 Testing, which we've established should be Standards and Technology,
9 NIST, and that the reference thermometer used to certify the mercury in
10 glass thermometer used in this program must be compared against a
11 thermometer which has been checked either directly or indirectly against
12 that absolute standard and can thus be traced (inaudible) to it.

13 Q. So the—the public comment asserted that this phrase was vague, is that
14 correct?

15 A. Yes.

16 Q. And you responded by saying no, it's a common principle in measurement
17 science?

18 A. Traceability is a common principle in measurement science, yes.

19 Q. Thank you. All right. And with regards to thermometers do you agree that
20 being traceable means to compare the thermometer used by the end user,
21 in this case Washington State Patrol, directly or indirectly to an absolute
22 standard?

23 A. Yes.

1 Q. And in this case the absolute standard is maintained by NIST?

2 A. Yes.

3 Q. In the form of a standard platinum resistance thermometer certified,
4 calibrated by NIST. itself?

5 A. Yes.

6 Q. All right.

7 MR. STEIN: Unfortunately our E is going to be—is that
8 defense D now?

9 COURT CLERK: D.

10 Q. Dr. Logan I'm going to have just briefly look at (inaudible). I'm not going to
11 ask you at this time to read the entirety of the—that document, but if you
12 could familiarize yourself which you probably...

13 JUDGE JACKE: How is it marked?

14 MR. SCHWARTZ: D.

15 JUDGE JACKE: D?

16 MR. SCHWARTZ: D.

17 Q. And this is a document entitled NIST mechanisms for disseminating
18 measurements?

19 A. Yes.

20 Q. Does it appear to be a NIST publication?

21 A. I would assume that it is given its title. I—I have no personal knowledge of
22 this document.

23 Q. All right. Understood, but it appears to be a NIST publication does it not?

1 A. As far as I can tell, yes.

2 Q. Okay. Can I ask you to move to page, or to look at page 318 of this
3 document please, and you see a section 2.5 entitled when is calibration
4 traceable?

5 A. Yes.

6 Q. All right. The second paragraph under 2.5 would you look at that please.
7 Do you see where it says the definition of traceability has chief global
8 acceptance in the metrology community and is as follows?

9 A. I see that.

10 Q. And the next sentence reads the property of a—the result of a
11 measurement...

12 MR. SCHWARTZ: I'm going to object to the form of the
13 question. I understand this is cross and leading questions are acceptable,
14 but I believe it is unacceptable for Mr. Stein to simply read in this article in
15 the from of a question.

16 JUDGE JACKE: Overruled.

17 MR. STEIN: Thank you.

18 JUDGE JACKE: You can ask the question using a
19 sentence.

20 MR. STEIN: Thank you Your Honor.

21 Q. The property of the result of a measurement or the value of a standard
22 whereby it can be related to stated references, usually national or

1 international standards, through an unbroken chain of comparisons all
2 have stated uncertainties. Do you see that?

3 A. I see that.

4 Q. Do you agree with that definition of traceability?

5 A. I have no reason to dispute that that—or I have no independent
6 knowledge that that is not a global accepted—a globally accepted
7 definition within the metrology community, but that I don't believe is a
8 community in which I claim membership.

9 Q. What I'm asking you is whether you disagree with that definition of
10 traceability, you personally?

11 A. It is certainly not the definition that I have used in the conduct of the breath
12 test program. So I would say that I disagree—well, it is a definition of
13 traceability. I would agree...

14 Q. Do you disagree with this definition of traceability?

15 A. It is a definition of traceability. I would agree that it is a definition of
16 traceability.

17 Q. All right. Now if you'll recall previously I showed you in prior testimony—
18 (inaudible), a printout from the National Institute of Standards and
19 Technology's website called supplemental materials traceability. Do you
20 recall that?

21 A. I recall being shown that before, yes.

22 Q. And when that has been marked I'm going to show that to you again.

23 COURT CLERK: Defense exhibit E marked for E.

1 Q. Defendant's exhibit E. If you would take a minute to review that just so
2 you are familiar with it, and when you are I'm going to ask you to go to a
3 particular page.

4 A. Okay.

5 Q. All right. Does that appear to be a printout from the NIST. website sir?

6 A. It does, yes.

7 Q. All right, and would you go to page seven, paragraph four please?

8 A. Okay.

9 Q. And you see paragraph four is a question. I want my measurement
10 results to be traceable to NIST what do I have to do?

11 A. Yes.

12 MR. SCHWARTZ: Your Honor I'm going to object at this
13 point. Pursuant to State v. Davis, which was cited in the State's brief,
14 citing to internet sites, even government sponsored internet sites is
15 inappropriate. There is not foundation, the there authenticity proven. So, I
16 would object to the use of this exhibit at all.

17 JUDGE JACKE: Go ahead.

18 MR. STEIN: Your Honor I'm not citing to it in a brief. I am
19 not even offering and admitting it as a learned treatise or a government
20 publication at this point. I'm simply inquiring of the witness with regard to
21 the definition published by NIST. of traceability, and I don't think the
22 objection is well taken at this stage. If I need to...

1 JUDGE JACKE: Mr. Stein you're assuming a fact not in
2 evidence, which is this was published by NIST. This witness said on
3 defendant's exhibit D he has no personal knowledge of that document.
4 He doesn't know what that document is. It appears to be NIST. He
5 answered basically the same way on E. It appears to be a printout from
6 NIST.

7 MR. STEIN: Right.

8 JUDGE JACKE: We don't know where that document
9 came from. You may ask him a general question as to the definition of
10 terms, but you may not assume that that is a NIST since this witness is not
11 going to say that.

12 MR. STEIN: I understand that Your Honor. Pursuant to
13 104(e), evidence rule 104(a), I—I haven't put on my witnesses yet. I will
14 establish the authenticity of these documents, and I need to now ask him
15 otherwise we will have Dr. Emery testify and then Dr. Logan come back
16 and that seems to me...

17 JUDGE JACKE: Well, then the way you do it Mr. Stein...

18 MR. STEIN: ...extremely inefficient.

19 JUDGE JACKE: ...is to ask him the question as to the
20 definition of a term, but you don't phrase as coming from that document
21 from NIST because you can't testify. We don't know that is a NIST
22 document. We don't have a witness who said that. So you may certainly
23 ask him a question as to definition of the terms contained within that

1 document, but the question cannot include the phrase NIST document,
2 NIST standard, NIST definition because we don't have that in evidence at
3 this point.

4 MR. STEIN: Very good Your Honor. Thank you.

5 Q. Sir, would you please look at what has been marked as defense E and I'm
6 going to ask you a question about the language contained in that
7 document. In response to what we were discussing previously where the
8 document says I want my measurement to be traceable to NIST what do I
9 have to do? The response is to achieve...

10 MR. SCHWARTZ: Objection. There is no establishment
11 this is a learned treatise. Defense counsel can't simply ask this question
12 based—he can't simply read the response into the record and assert that
13 it has any relevance based on the unspoken truth that this is a NIST
14 requirement.

15 JUDGE JACKE: Counsel could you rephrase the
16 question...

17 MR. STEIN: Sure.

18 JUDGE JACKE: ...per the ruling?

19 MR. STEIN: Absolutely Your Honor.

20 Q. Dr. Logan, let me ask you if you believe this is a correct definition of
21 traceability. To achieve traceability of measurement results to standards
22 maintained by NIST you need to reference your measurement results

1 through a unbroken chain of comparisons, including determining the
2 uncertainties at each step.

3 A. And I'm sorry your question is?

4 Q. Is that a correct definition of traceability?

5 A. I—yes. It's a correct definition of traceability.

6 Q. Thank you.

7 A. I can't disagree with that statement.

8 Q. Thank you. Can you tell us what uncertainty is sir?

9 A. It's basically a recognition of the fact that any measurement, if replicated,
10 will have some differences each time the measurement is made based on
11 the inherent limitations of the measuring device in this context.

12 Q. And is uncertainty stated in a certain—certain way?

13 A. It can be stated in a variety of different ways counsel.

14 Q. Can you describe them for us, or one of them for us?

15 A. It can be stated within—as a confidence interval, as standard error. These
16 are probably the two principle scientific ways in which it is stated.

17 Q. All right. When you talk about a confidence interval or standard deviation,
18 well let's talk about standard deviation. Is there something known as the
19 first standard deviation?

20 A. Yes.

21 Q. And with regard to the first standard deviation what does that mean in
22 terms of the frequency that a measurement—a measurement result will be
23 within the observed stated systematic error? How frequent?

1 A. Oh, I don't recall precisely. I believe it is around 66 percent. I don't recall
2 precisely.

3 Q. Meaning that it one states a systemic error of plus or minus .1 degree and
4 says it is to the first confident interval—confidence interval, that means
5 that if you take 100 measurements 66 of them will be within the stated
6 plus or minus .1 degree?

7 A. One standard. One standard (inaudible).

8 MR. SCHWARTZ: I'm going to object as to relevance.

9 JUDGE JACKE: Overruled.

10 Q. I didn't hear the witnesses answer. I'm sorry. Could you restate your
11 answer please?

12 A. I'm sorry could you restate your question?

13 Q. Sure.

14 A. I think I answered (inaudible).

15 Q. When we talk about the first confidence interval, and I'm just using as an
16 example plus or minus .1 degree. If we say we have plus or minus—a
17 systematic error...

18 A. I'm not—I'm not familiar with the term within—first confidence interval.

19 Q. I'm sorry?

20 A. Do you mean within the first standard deviation?

21 Q. I do and I apologize.

22 A. Okay.

1 Q. I get tongue tied with the terminology. Thank you for the correction. If we
2 have a stated systematic error of plus or minus .1 degree, and we say that
3 it is a—it's uncertainty is the first standard deviation, correct language
4 now?

5 A. Okay.

6 Q. Then what we are saying is—as scientists, of what you are saying as
7 scientists is that if we take 100 measurements 66 of those measurements
8 will be plus or minus .1 degree, correct?

9 A. If we apply that standard, yes.

10 Q. Thirty-three will be outside of plus or minus .1 degree then?

11 A. Yes.

12 Q. And the second standard deviation is 90 or 95 percent?

13 A. I believe so, yes.

14 Q. And the third standard deviation is 99?

15 A. Yeah. I don't remember the specific numbers, but that—I couldn't
16 disagree with that.

17 Q. All right.

18 MR. STEIN: The (inaudible) protocol is (inaudible). I'm
19 sorry may I approach the witness?

20 JUDGE JACKE: Yes.

21 MR. STEIN: The (inaudible) protocol should be here.

22 MR. SCHWARTZ: I think it is B.

23 MR. ROBBINS: B Howard.

1 Q. Dr. Logan would you look at plaintiff's B, simulator thermometer
2 certification policy and protocol please. I have some questions with regard
3 to that exhibit B.

4 A. Yes.

5 JUDGE JACKE: I'm sorry what exhibit?

6 DR. LOGAN: It is exhibit B.

7 JUDGE JACKE: B. All right.

8 Q. Now this is a protocol or procedure that you have approved for the
9 Washington State Patrol Breath Test Division, correct?

10 A. Yes.

11 Q. All right, and this is what you want them to do in checking the simulator
12 solution thermometer, correct?

13 A. Yes.

14 Q. Now the simulator solution thermometer we've referred to as a MIG
15 previously. That's means a mercury, or liquid in glass thermometer, right?

16 A. Yes. I believe I've referred to it as a mercury in glass thermometer.

17 Q. All right. So, this protocol only addresses the intended actions of the
18 Washington State Patrol, correct?

19 A. Correct.

20 Q. And it addresses what you want them to do to perform this annual
21 certification of the MIG, or simulator thermometer, correct?

22 A. Yes.

1 Q. So it only addresses the first half of 448-13-035 as we characterized it,
2 correct?

3 A. Correct.

4 Q. Okay, and again just to be clear, the Washington State Patrol does not do
5 the certification of the reference thermometer used to check the simulator
6 thermometer in that protocol?

7 A. That's correct.

8 Q. Someone else does that?

9 A. Yes.

10 Q. (Inaudible) certification?

11 A. Yes.

12 Q. And the protocol does not address, exhibit B does not address the
13 certification of the digital reference thermometer, correct?

14 A. Correct.

15 Q. Okay. You previously have testified that one of the reasons that you
16 adopted this language in 448-13-035 that the—that the reference—that
17 the State Patrol shall use a reference thermometer traceable to standards
18 maintained by NIST is so that everyone is talking about the same
19 temperature is that correct?

20 A. Yes.

21 Q. And it's true—is it also true that you have testified that you adopted it
22 because it is a quote "reasonable practice to ensure that we are not

1 setting our own arbitrary standard for temperature, but we are—we were
2 using something that was recognized by the scientific community?"

3 A. That sounds like what I may have said before, yes.

4 Q. Okay, and is that a true statement?

5 A. I believe it to be, yes.

6 Q. And is part of that because technicians out in the field will adjust the
7 temperature of the simulator, pentiometer of a thermistor, or the thing that
8 controls the temperature in the solution so that the thermometer reads 34
9 degrees plus or minus .2?

10 A. I'm not sure I understand your question. Certainly the technicians do
11 make those adjustments to the thermostat in the simulator, but are you
12 asking—are you asking if that is related to my statement?

13 Q. Yeah. I'm asking if that is part of the reason, yes.

14 A. No.

15 MR. STEIN: I have nothing further Your Honor.

16 JUDGE JACKE: Mr. Schwartz?

17 MR. SCHWARTZ: Just a few very brief questions Your
18 Honor.

19

20 REDIRECT EXAMINATION

21 (BY MR. SCHWARTZ)

22 Q. Dr. Logan, Mr. Stein asked you a number of questions regarding
23 definitions of traceability. Were—actually I guess specifically he asked

1 you about two definitions related to traceability. For purposes, for your
2 purposes in supervising the breath testing program in Washington are
3 either of those definitions complete or satisfactory for your purposes?

4 A. They employ standards in excess of what I believe was appropriate for the
5 purpose to which—for which we were using the mercury in glass
6 thermometers.

7 Q. Why?

8 A. So—and I wasn't—I wasn't aware of those definitions when I adopted 448-
9 13-035.

10 Q. And in what way are they in excess of what is—what is necessary for
11 administration of the breath test program?

12 A. They would enable—the purpose of employing a standard such as has
13 been defined to me this morning is to provide extremely accurate
14 measurement of in this case a temperature far beyond the standard that is
15 required in order to make a certification of a breath test result accurate
16 and reliable.

17 Q. Now you were also were asked questions about standard deviations and
18 confidence intervals. Are the standard deviations and/or confidence
19 intervals of the thermometers in use by the breath test section calculated?

20 A. No.

21 Q. Why not?

22 A. I'm sorry are you talking about the mercury in glass thermometers?

23 Q. Initially let's talk about the mercury in glass.

1 A. No they are not.

2 Q. Why not?

3 A. The protocol that we have in place doesn't permit the calculation of
4 standard deviations for that...

5 Q. And.

6 A. ...for the—for the mercury in glass thermometers.

7 Q. Prior to March 11th of this year 2003, to the best of your knowledge, had
8 the standard deviations and/or confidence intervals been performed on the
9 digital reference thermometers being used in King County?

10 A. No.

11 Q. And was—was that not important to you in terms of administration of the
12 breath test program?

13 A. No.

14 Q. Why not?

15 A. Because the protocol or the procedure that we had in place I believe
16 employed an appropriate level of care and caution with respect to
17 certifying the mercury in glass thermometers for the purpose to which they
18 were being applied within the breath test section.

19 Q. And I mentioned March 11th of this year as the date for that question. On
20 or about March 11th of this year were confidence—did—did—were tests
21 done on the digital reference thermometers that now gave a result
22 indicating either the standard deviations or confidence intervals?

1 MR. STEIN: Objection. Foundation. Personal knowledge.
2 Assumes facts.

3 JUDGE JACKE: Sustained. Can you reword that?

4 MR. SCHWARTZ: I will Your Honor.

5 Q. Actually I'll withdraw the question (inaudible) save that. Dr. Logan,
6 defense counsel asked you some questions with regards to the
7 Washington State Register found in exhibit defendant's C. Weren't you
8 also asked the question with regard to whether or not the thermometer
9 certification protocol was based on NIST standards?

10 A. Yes.

11 Q. And what was your response?

12 A. The comment received, or question received was is the thermometer
13 certification protocol based on NIST standards, and my response was no,
14 however, it is a reasonable protocol based on the design of the
15 thermometer. There is no NIST protocol for certifying this custom
16 thermometer. This recommends testing of thermometers at multiple
17 temperatures which is done during calibration at the time of manufacture.
18 This is not an attempt to evaluate the actual variance for that
19 thermometer, but simply a check to see if they meet specific minimum
20 standards for certification. Given that there is no demonstrated effect of
21 the accuracy of this thermometer on the results of the subject's breath test
22 this is a reasonable standard.

1 Q. Thank you. Now, as—as supervisor of the breath testing program are you
2 familiar with the methodology employed by the Washington State Patrol in
3 terms of how they obtained the digital reference thermometers?

4 A. How they obtained them?

5 Q. From whom—whom they received them?

6 A. Yes.

7 Q. And in your opinion, again and I'll—I'll make the cut off date for this
8 question March 11th of 2003, was the methodology and the suppliers
9 satisfactory for the purposes for which the thermometers were being used.

10 MR. STEIN: Objection. Foundation. Assumes facts.

11 JUDGE JACKE: Sustained.

12 MR. SCHWARTZ: Well, I haven't—I haven't asked any
13 questions about...

14 JUDGE JACKE: I understand counsel. You reword it.

15 Q. Where did the digital reference—where did the Washington State Patrol
16 obtain the digital reference thermometers? From where did they obtain
17 the digital reference thermometers?

18 MR. STEIN: Objection. No personal knowledge.

19 JUDGE JACKE: Do you know the answer to that sir?

20 DR. LOGAN: Yes I do.

21 JUDGE JACKE: Go ahead.

1 A. We purchased them from Guth, which is a instrument manufacturer. The
2 manufacturer, in fact, of the water bath simulators that we use on the
3 breath test instruments.

4 Q. And once the Breath Test Section obtained the digital reference
5 thermometers from Guth did they make use of a third party to certify
6 those?

7 A. Yes.

8 Q. And who was that party?

9 A. It was company called Bostec.

10 Q. And who was the—the president or owner of Bostec?

11 A. Richard Bosman, and they are based in Bellingham, Washington.

12 Q. And do you have any personal knowledge of the methods that he used to
13 certify the digital reference thermometer?

14 A. I—no I don't. I have reviewed the document that he produced...

15 Q. I have...

16 A. ...to indicate that they had been certified, but I'm not—I'm not familiar with
17 the methods he used.

18 MR. SCHWARTZ: Okay. I have no further questions then.

19 JUDGE JACKE: Mr. Stein?

20 MR. STEIN: Thank you Your Honor.

21

22 RE CROSS - EXAMINATION

23 (BY MR. STEIN)

1 Q. To your knowledge did the Washington State Patrol rely on Bostec, Inc. to
2 certify the DRT?

3 A. The digital reference thermometer?

4 Q. Yes sir.

5 A. Yes.

6 Q. Now you've indicated in redirect that you believe that the definitions of
7 traceability that you previously testified to in cross-examination were true
8 and correct definitions, implied a higher level of sophistication or
9 requirement than what you are requiring, or what you believe is necessary
10 for the mercury in glass simulator solution thermometer certification
11 process?

12 A. Yes.

13 Q. All right. Is there any doubt in your mind that the definitions that you
14 previously adopted are the definitions of NIST with regard to traceability?

15 MR. SCHWARTZ: Objection. Foundation.

16 JUDGE JACKE: I don't—yes. Sustained. You need to
17 reword that. I don't understand the question.

18 MR. STEIN: All right.

19 Q. What aspect of the definitions that you previously adopted is—is in your
20 opinion more than is required?

21 A. What definitions are you suggesting that I previously adopted?

22 Q. Well, let's go look at defendant's D and E I believe. D at page 2.5 and E
23 at page seven.