


Breathalyzer Update



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Original Problem – April 2015

- CMR’ s require analysis of gas calibration standard within the tolerance range of **.074-0.086**.
- But machines were set by Draeger at wider range of **.07 to .09**
- Machines passed periodic tests and permitted breath tests when they shouldn’ t have.
- EOPSS issued press release saying there were <150 erroneous tests & software patch from Draeger to fix the problem.

Consolidation

- June 2015 - SJC remanded Camblin case for hearing on Daubert challenge to predecessor breathalyzer, the **7110**.
- Defense attorneys started filing Daubert challenges to source code for the **9510**
- August 2015- the C. J. of D. Cts. issued order of consolidation
- Consolidated cases assigned to Concord D. Ct. & Judge Robert Brennan. (Concord team: Joe Bernard, Jay Milligan, Steve Vaillancourt, Mike Bowser and Greg Oberhauser.)

Consolidation

•In November 2015, C. J. Ronquillo of BMC issued order of consolidation & assigned J. McManus. (BMC team: Larry Tipton, Annie Connor, Irv Rakhlin, Josh Raisler-Cohn in supporting role.)

•The D's in both sets of cases sought discovery orders including access to 2 breathalyzers for purposes of static and dynamic analysis of source code.

Pre-Trial Litigation

•Concord and BMC: issues re NDA or protective order in for access to source code for the 9510 & access to 2 breathalyzer machines.

•In May 2016, Δ's in Concord cases filed a 211 s. 3 petition re J. Brennan's restrictions on scope of discovery & denial of access to 2 machines.

•Comm. in BMC filed 211 s. 3 petition re breadth of J. McManus' discovery order giving access to 2 machines.

Pre-Trial Litigation

• After 2 hearings before Justice Botsford - cases ordered into one consolidation; Comm. had to turn over source code and 2 machines for analysis

• Consolidated case went back to Concord and J. Brennan (Team: Joe Bernard, Greg Oberhauser, Jay Milligan, Larry Tipton, Josh Raisler-Cohn, Irv Rakhlin, Justin Brown in supporting role.)

• >500 cases in consolidation, >2,000 cases stayed.

The Daubert Challenge



- **Source code**/software/programming of machines
- **Interfering substances** – lack of specificity for alcohol testing/inability to detect other substances (limitations of dual sensor system)
- **Physiology** of breath testing
- **Blood-breath ratio**
- **Lab quality**/procedures/protocols
- **Metrology** and measurement of uncertainty

The Daubert Hearing – Comm. witnesses:

- A. McKenna from Security Innovations (source code)
- Ed Conde from Volpe (testing BT for reliability)
- Friedrich Stock (Draeger – 9510 development, function)
- Sonke Fischer (Draeger – development of source code and BT, critique of defense report on source code)
- Hansueli Ryser (Draeger – development of source code, dual sensors’ technology, implementation in MA and MA calibration requirements)

The Daubert Hearing – Comm. witnesses:

- Dr. A.W. Jones from Sweden (toxicologist, physiology of breath testing, blood breath ratio),
- Melissa O’ Meara – OAT (implementation of 9510 in MA, how testing happens in MA, protocols and procedures)
- Brian Shaffer (Draeger inspection of machines – re problem with variable value for agreement between the two sensors)

The Daubert Hearing – Defense witnesses:

- Evan Kovanis (source code flaws)
- Dr. Andreas Stolz (interfering substances)
- Dr. Joe Anderson (physiology of breath testing, blood breath ratio, etc.)
- Janine Arvizu (lab quality, standards and protocols and problems with OAT)

The Decision and Its Ramifications

- Design and function of breathalyzer are reliable
- Extensive testing of 9510 demonstrated reliable measurement of breath alcohol
- While not perfect, source code produces accurate results
 - (7 sub-issues – best practices, unchecked return values, electrochemical sensor bit location, uninitialized variables, data integrity and management, clipping of sensor measurements, hardware error check programming)
- 9510 distinguishes alcohol from interfering substances
- Blood breath ratio theory generally accepted & sound science

The Decision and Its Ramifications

- **BUT**, due to lack of formal protocols until 2014, Comm. failed to show OAT had scientifically reliable method for calibrating the Alcotest 9510
- Any Alcotest 9510 BAC result from a device annually calibrated & certified by OAT before September 15, 2014 **presumptively excluded**
- Comm. can try to prove proper calibration case-by-case
- > 20,000 cases at .08 or more between **2011 and September 2015!**

The Decision and Its Ramifications

- Consolidation team has not filed a 211 s.3 petition on the decision at this point
- Individuals can still file one
- Preserve issues raised in challenge by filing motion in limine at trial, object to results being admitted

The Decision and Its Ramifications

Other issues that may give rise to further challenges:

1. The margin of error or uncertainty budget – OAT’s is 7% such that a reading of .08 could actually be 7% less or 7% more

- stipulation,
- testimony,
- jury instruction,
- object to per se theory?

The Decision and Its Ramifications

Other issues that may give rise to further challenges:

2. Problems discovered with variable setting that assures tight agreement between dual sensors – new Daubert challenge?

- Parameter setting for acceptable difference between IR and EC sensor readings set by Draeger
- All machines had the wrong setting
- Some machines set at value making device less sensitive to interferences – produced test results but *should have* reported error and shut down (20% of machines?)

The Decision and Its Ramifications



Other issues that may give rise to further challenges:

3. Physiology of breath testing (does BT measure deep lung air?, effects of hematocrit & breath temperature, variation in blood/breath ratio, physical variations in breathing)
 - Variety of experts to counter old theories
 - Toxicologist, pulmonologist, + chemical engineer
 - Research? More peer-reviewed publications?
