SYLLABUS

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State v. Jane H. Chun, et al. (A-96-06)

Argued April 5, 2007
Re-argued January 7, 2008 –- Decided March 17, 2008

HOENS, J., writing for the Court.

In this case, the Court addresses the scientific reliability of the Alcotest 7110 MKIII-C evidentiary breath-testing device (Alcotest) and considers the admissibility of the Alcohol Influence Reports (AIRs) that it generates for the prosecution of defendants under New Jersey drunk driving laws.

Defendants are twenty individuals charged with driving while intoxicated, N.J.S.A. 39:4-50, in Middlesex County, who challenged the admissibility of Alcotest results in their individual proceedings. The Law Division consolidated the cases to consider the reliability of the device. The State filed a motion requesting that the device be recognized as scientifically reliable. The Law Division denied that motion, and the State filed an interlocutory appeal. The Appellate Division remanded the matter, but before that proceeding could continue, the Court directly certified the appeal pursuant to Rule 2:12-1 on December 14, 2005.

The Court remanded the case to retired Appellate Division Judge Michael Patrick King, sitting as a Special Master, to conduct a hearing on the overall scientific reliability of the Alcotest. Following four months of testimony, the Special Master issued a report on February 13, 2007. He concluded that the device was scientifically reliable, conditioned on specific modifications and recommendations. After that report was issued, but before oral arguments were heard, the manufacturer of the device, Draeger Safety Diagnostics (Draeger), moved for leave to intervene, which motion the Court granted on March 27, 2007. Following oral arguments, the Court again remanded the matter to the Special Master, this time to afford defendants an opportunity, following Draeger's intervention, to examine the source code that comprises the Alcotest software. After receipt of experts' reports and further testimony, the Special Master issued a supplemental report on November 8, 2007, in which he affirmed his original finding of scientific reliability, contingent on several additional recommendations. Thereafter, the Court conducted a second round of oral arguments.

Three distinct sets of challenges were raised regarding the use of Alcotest results in drunk driving prosecutions. The first set of challenges related to how the machine measures a suspect's blood alcohol concentration (BAC). It was contested whether: (1) the Alcotest's use of a 2100 to 1 blood/breath ratio is unreliable because it overestimates the actual BAC of some individuals; (2) to avoid equal protection issues, all suspects, instead of just women over the age of sixty, should be held to a minimum breath sample volume requirement of 1.2 liters of air; (3) a breath temperature sensor is necessary because the machine may overestimate the BAC of exhaled breath above a certain temperature; (4) the machine's tolerance, which is the deviation range within which test measurements must fall to constitute a reliable result, is acceptable.

The next set of challenges related to the Alcotest's programming and source code. Defendants argued that: (1) the use of an algorithm to compensate for the depletion or "drift" of fuel cells artificially inflates results; (2) the use of a "weighted averaging" algorithm, which places greater weight on later breath measurements than earlier ones, also serves to artificially inflate results; (3) a buffer overflow error undermines the reliability of Alcotest results in certain circumstances; (4) the lack of catastrophic error detection within the device undermines the reliability of its results; and (5) the overall programming style fails to follow any design standard, and is so flawed that it can not be relied on to produce accurate results.

The third set of challenges related to the admissibility of Alcotest results and foundational documents as potentially violating Sixth Amendment rights under Crawford v. Washington.