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Hole Drilled in Intoxilyzer 8000

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As a former Department Inspector with the Florida Department of Law Enforcement (FDLE), Alcohol Testing Program (ATP), I was part of the team responsible for the approval, development and implementation of the Intoxilyzer® 8000, as the evidential breath test instrument in Florida.

Mr. Roger Skipper, also a Department Inspector with the FDLE-ATP, was appointed and began serving as the project manager for the Intoxilyzer® 8000 program in 2001. As project manager, he acted as the liaison between FDLE-ATP and CMI Inc. during this period of time.

On May 29, 2002, FDLE-ATP completed a Breath Test Instrumentation Evaluation at the FDLE Regional Office in Tampa, Florida. Following the FDLE, Alcohol Testing Program's review of this evaluation, the CMI, Inc. Intoxilyzer® 8000 was approved for use in breath testing in Florida. However, it would be almost four years before the approved breath test instrument would actually be placed into service. On March 27, 2006, the Intoxilyzer® 8000 was finally implemented as the evidential breath test instrument throughout the State of Florida.

The breath test instrument used during the May 2002 evaluation did not contain the software for generating the necessary forms or the breath testing and inspection protocols. These functions had not yet been loaded into the breath test instrument, as they were still in the developmental stages and not yet completed for use. Numerous hardware and software changes were made between the time of FDLE-ATP's approval of the breath test instrument in May 2002, and March 2006 when the Intoxilyzer® 8000 was placed into service for evidential breath testing. One of the changes to the hardware involved the drilling of a hole into the exhaust block check valve.

During the week of August 1st through August 5th of 2004, members of the FDLE, Alcohol Testing Program were sent to Owensboro, Kentucky for the 20th Annual Intoxilyzer® Users Group Conference. All members in attendance were provided advanced training on the Intoxilyzer® 8000. Separate meetings were held for the members of the FDLE, Alcohol Testing Program and CMI, Inc. staff, with the goal of working on the breath test instrument software and hardware development. At the end of the weeklong conference, Mr. Skipper and I were instructed to remain

in Kentucky to continue our work on the breath instrument development and software debugging.

On Monday, August 9, 2004, Mr. Skipper and I arrived at CMI Inc.'s Engineering Section and began our assignment by setting up simulators and testing equipment. Once the simulators and instruments were warmed up, simulator tests were initiated to verify instrument calibration and operation. Upon initiation of the simulator testing, it was immediately apparent that something was wrong. The simulator test results were consistently running 0.02g/210L below the target value. For example:
A simulator with a 0.08 alcohol reference solution was producing results in the 0.06g/210L range. Mr. Skipper and I both were literally and figuratively scratching our heads, trying to determine what was causing these unexpected results. There was no logical explanation for why the results were running below the target value; as it was the same instrument configuration as was tested in Tampa in 2002, during the FDLE-ATP evaluation.

Troubleshooting procedures were immediately implemented; as we began checking the simulators for proper temperature and air tight seals. We also inspected the hoses and the connectors that were being used between the instrument and simulator. The connectors were changed many times using many different types of connectors, in an attempt to find the source of the problem. None of our troubleshooting efforts rectified or changed the low simulator results. Mr. William Schofield, CMI Inc.'s Chief Engineer at the time was consulted; upon which he recommended drilling a hole in the exhaust block check valve. Following Mr. Schofield's recommendation, a hole was drilled and the breath test instrument immediately began to produce simulator results within the target valve. Today, all Intoxilyzer® 8000s used throughout the State of Florida have the same hole drilled in the exhaust block check valve.

At the time of this particular modification by CMI, Inc., Chapter 11D-8.003(5) F.A.C. stated the following requirement, "*A manufacturer whose instrument has been previously approved by the Department shall notify the Department in writing prior to making any modification or adding a new option to such instrument. The Department shall evaluate such modifications or options to an approved breath test instrument and determine whether they affect the instrument's method of analysis or analytical reliability*". This mandated, written notification, regarding this modification of the breath test instrument, was not made to FDLE-ATAP by CMI Inc., neither prior to or after the drilling of the hole in the valve. However, because Mr. Skipper and I were present when this modification to the instrument took place, the FDLE, ATP's Program Manager was notified by phone. None of the CMI, Inc. Intoxilyzer® 8000 Instrumentation Evaluation Reports conducted by FDLT-ATP after August 2004, reference the "hole drilling" modification of the breath test instrument, as a purpose for conducting the evaluation.

The exhaust block check valve inside the Intoxilyzer® 8000 is called a passive valve system and is designed so that air flow will follow the path of least resistance. This type of valve system has the potential to cause "purge fail" problems, as well as many other problems experienced with the Intoxilyzer® 8000s used in many different states.

Today, the question remains unanswered. What changed within the software and/or hardware between May 2002 and August 2004, which required the drilling of a hole in the exhaust block check valve?

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