

The Interlock Device

Buck Rogers Meets Learned Hand

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“Technological progress has merely provided us with more efficient means for going backwards.” -Aldous Huxley

The North Carolina General Assembly, falling over itself to appear ever more tough on crime, adopted a devilishly clever plan to further punish impaired driving offenders, while at the same time, ostensibly protect its citizens from the maladies of drunk driving. To that end, beginning July 1, 2000 the “Interlock Law” came into effect. To some, the interlock device is brilliant technology whose time has come. Others rue the day the General Assembly adopted its application.

After reading North Carolina General Statute (N.C.G.S.) § 20-17.8, (attached herewith at the back of the materials) and not really understanding the practical application of the same, I thought it appropriate to research how the interlock device would affect clients. Despite various musings on the subject by the local bar, which are invariably associated with chambers conferences, the seemly simple amendment to the law carries some staggering consequences. Rather than buying into the hype, I scheduled a meeting with Mr. Jerry Mobley, founder of Monitech, Inc., and Guardian Technologies of North Carolina, Inc.

An amazingly affable man with a background in journalism and political media presentations, Mr. Mobley has for all practical purposes cornered the market in North Carolina as it pertains to interlock technology. As the ONLY state regulated entity, business, company, et al, in North Carolina authorized to install, monitor, and report interlock violations, Monitech is the only game in town, so to speak. Frankly, I had a lot to learn about the machine and Mr. Mobley was kind enough to share an afternoon explaining how things work.

The Science – Made Simple

The technology for obtaining and differentiating between chemical samples has been around since the mid-1950's; yet, the reliability and the overall cumbersome size of the device prevented effective application. Since approximately 1993 there have been vast improvements in two areas. First, the actual method of detection is substantially more advanced due to a change in focus from the semiconductor to electrochemical fuel cells. Second, the portable computer has made data collection and sampling infinitely more feasible.

Monitech and Mr. Mobley are, in terms of the computer revolution, from the Paleolithic Era. They are older than any known regional corporation practicing the art of interlock alcohol detection. Interlock technology in the late 80's, although remarkable, was still in the chipped stone tool period. Having formed in 1989, the possibility of the North Carolina General Assembly ratifying an interlock related law was, at best, speculative. The technology at the time still left much to be desired. Frankly, Mr. Mobley took a chance investing in interlock science back then, which will now likely pay off substantially.

In addition to data collection problems, a host of issues regarding false positive tests plagued older systems. Operators could easily confuse the system and cause subsequent equipment failures with relative ease. Having the device in one's vehicle provided ample opportunity for experimentation and, if nothing else, the clientele was imaginative to say the least.

The newer type of circuitry changed the method of testing and was noticeably less susceptible to tampering. Now instead of differentiating between unknown substances and extrapolating possible results, an electrochemical response to alcohol only is utilized. The earlier approach required a separation of chemical indicia. For example, the machine attempted to determine the difference between nicotine, caffeine, ethyl alcohol, and chocolate milk for that matter. As an odd sidebar, chocolate milk apparently caused some problems with older testing devices. In combinations, many things could be confused for alcohol.

The most recent technology, i.e., that approved and utilized thus far in North Carolina, is probably best described as a "litmus test." Chemical "X" causes a predictable reaction to Chemical "Y" when introduced in a controlled environment. If you recall from high school chemistry, the litmus paper changed from pink to purple.

Many people are familiar with the common pregnancy test. Therefore, that might be a good place to draw a comparison with the interlock machine. Much like the litmus test described above, pregnancy test strips react chemically to the hCG (human Chorionic Gonadotropin) hormone that may be in a woman's system for a variety of reasons. The hCG, if present, attaches chemically to a tracer with a blue, red, or gold color label. The reaction between the hCG and the colorized tracer denotes a positive test. Sometimes the user will see two blue lines, or a positive red plus (+) symbol.

The change in color of the pregnancy test is transferred from a physical reaction to something electrical, i.e., “electrochemical,” in the interlock world. In computer terms, it is a standard “on-off / 0-1 / 1-0” relationship.

Within the interlock device is a zone or detection area over which breath, possibly rich in ethyl alcohol fumes, is passed. The alcohol reacts chemically with something inside the mechanism and that reaction sends off an electrical signal to the onboard computer. Please note, there is no litmus paper in the machine. The electrochemical response, in addition to being very boring, or more fairly, beyond my level of comprehension, is something Monitech considers a trade secret.

Like anyone who has ever observed an unclear pregnancy test will know, there are problems with such a simple system. Chemists like to call them “discordant results.” Sometimes, due to a wide range of reasons, the chemical results are not as reliable as one might wish. Unfortunately, certain variables can and do change test results.

Again, using a pregnancy test as an example, such results can be thrown off, or more appropriately put, misinterpreted in two ways:

- 1) hCG kits can detect a wide and varying range of different hCG-related molecules. They are not limited to the type of hCG normally related to being pregnant. Ergo, a “positive” hCG return, which one would assume means pregnancy, could be caused by an elevated hCG level due to some other reason than being pregnant, to wit: cancer. As a result, a positive test (indicating the existence of hCG in a woman’s system) would be accurate, while the logical conclusion would be wrong.
- 2) The color tracer used to “attach” to hCG can degrade over time or become contaminated. Litmus tests require a controlled environment. At best, all such

testing takes place in a sterile laboratory. Regular false positives and false negatives are expected in the process. A direct correlation exists between the proximity of the laboratory and the veracity of test results. In fact, a sterile environment does not ensure 100% accuracy. Instead, it gives a relative level of reliability over time.

Similarly, the interlock device, relying on a chemical reaction as the basis for operation, suffers from the same maladies as pregnancy tests. In the first example of a discordant result, different types of hCG could cause a positive test indication. Unfortunately, the test cannot distinguish between the hCG produced by a woman during pregnancy and that present due to a terrible form of cancer. The positive indication is technically correct; yet, the resulting assumption is far from accurate.

OB/GYN's deal with discordant results due to misinterpretation and contamination by re-testing. Interlock Doc's apply the retest method as well as the prophylactic approach, e.g., avoid possible sources of contaminants that may test positive for alcohol. The test zone in an interlock device is problematic, as it is potentially in a less than sterile field and does not conform to an acceptable laboratory condition.

In comparison, the makers of the Intoxilyzer 5000, or those who testify to its infallibility, swear without doubt the machine can distinguish between ethyl alcohol and other forms of non-drinking related alcohol. In any event, the fifteen (15) minute observation period is supposed to remedy potential problems in this area.

It might be relevant to point out the general theory behind the Intoxilyzer 5000 machine. A reported Blood Alcohol Content (B.A.C) reported on the DHHS 3908 form is based upon a sample of air taken from the lower lungs.

Consumed ethyl alcohol is absorbed into the blood stream upon ingestion and is necessarily carried around by blood vessels to the different organs of the body. Most people are interested in what alcohol does to the brain, and not where else in the body it travels. Blood eventually circulates through the lungs, where it gets infused with new oxygen and relieves itself of carbon dioxide and other waste products, a.k.a, metabolism. During the transfer of oxygen the alcohol cannot keep from seeping into the very tiny branches or air sacs of the lungs known as alveoli.

The reason it takes so long to blow into the Intoxilyzer is not related to obtaining a sufficient sample of air to perform the test; rather, the first 2/3rds of the lung capacity (approximately) is intentionally blown off because it is not as rich in alcohol fumes. The lower lung air is important because it is the air that was most recently in the blood stream. That is why asthmatics have such difficulty performing the test. Asthma primarily is a disease associated with not being able to breathe out due to mucus secretions in the lungs.

In all fairness to the Intoxilyzer gurus, the machine likes a steady sample of air that contains a relatively consistent percentage of chemicals to test. You may have heard it referred to as a sample plateau. The first air expelled from the lungs presumably does not have as much alcohol in it, and would therefore be interpreted as a lower ratio of alcohol to blood. That is also why a single breath of air must be sampled. Inhaling causes new air to flow into the lungs, thereby weakening the concentration of air going into the Intoxilyzer.

No such luck with the interlock. When it senses any form of alcohol, an electrochemical response is triggered. A very interesting and surprising array of alcohols can cause discordant results. Despite “4800 lab bench tests without any false-positives,” Mr. Mobley (the Interlock King) candidly described some problem areas:

- A) Mountain Dew fermentation
- B) Old Honey Buns
- C) Nyquil / Cloraseptic
- D) Bianca Breath Spray
- E) Diabetes - Diabetics cannot use the interlock device

As such, the assertion of no false positives is technically true; but, like the pregnancy test, it can be misleading. The positive return could be caused by an elevated alcohol level in the sample due to a reason other than drinking an alcoholic beverage. As a result, a positive test (indicating the existence of alcohol in the subject's system) would be accurate, while the logical conclusion would be wrong.

But alas, one might think, "that helps our client." Actually it does not. At best it might make him or her sit for a ½ hour waiting to take another test. At worst, a DMV review officer might revoke a double secret probationary driver's license for having any alcohol in their system.

History & Comparing Jurisdictions

To the best of anyone's recollection, Ohio was the first jurisdiction to adopt some formal use of interlock technology. Pennsylvania followed suit shortly thereafter. North Carolina adopted §20-17.8 in July 2000, making it one of the first five (5) or six (6) states to enact such legislation.

The logic for setting the arbitrary and somewhat capricious figure of .16% or higher is unknown. Presumably, two times the legal limit struck some inner chord among legislators. For all practical purposes, there is no reason or rational basis for setting the .16% standard. One might reasonably argue, based upon an Equal Protection claim, that the level

of impairment is entirely irrelevant to one's propensity to consume a benchmark amount of alcohol and operate a motor vehicle shortly thereafter. Is a person who operates a motor vehicle with a .15% B.A.C. less guilty than the offender who drank three additional sips of the offending beverage?

Whatever the reason, North Carolina approached the perceived problem area with either the desire for extreme punitive measures or an amazingly ignorant view of existing D.W.I. / D.U.I. laws in North Carolina and other similar jurisdictions. For example, the current regulations pertaining to the use of both the Intoxilyzer 5000 and any of the adopted Alco-Sensor™ devices pursuant to 15A N.C.A.C. 19C.0206 allow for a variance in the sample. As most practitioners know, North Carolina accepts as reliable test results that are within .02% of one another. Furthermore, the only result available for admission is, as law enforcement representatives love to say with added emphasis, "the lower of the two readings."

In comparison, the interlock device allows a variance of only .01% of test sample. Any sample containing .01% or more of alcohol would react with the electrochemical fuel cell and send a signal to the interlock device thereby preventing engine ignition. Those results would be reported back to the appropriate judicial and quasi-judicial agencies. To paraphrase Mr. Mobley of Monitech, "That is why we try to advise our clients of the sensitivity to alcohol. There can be a very high price for last night's drinking episode."

Although a comprehensive review of every jurisdiction currently availing itself of the interlock technology has not been completed pursuant to this lecture, it appears North Carolina is the only "Zero Tolerance" state in the country. It is strikingly important to further understand the importance of the fact that North Carolina is also the only state to allow only a .01% variance.

The Big Hurt

One of the most disturbing interpretations of the relatively new statute is the twelve (12) month rule or what we will call "The Big Hurt." According to Mr. Mobley at Monitech and including some incidental conversations I have had with the Division of Motor Vehicles, persons who blow .16% or greater on the Intoxilyzer, whether or not they chose to obtain a Limited Privilege during the standard twelve (12) month period of revocation, will be required to submit proof of installation of the interlock device. Put simply, the Defendant cannot avoid the eventual installation requirement of the interlock for the stated year.

For example, Defendant X is convicted on September 14, 2001 of driving while impaired. The Clerk of Court, pursuant to §20-16.5, reported the recorded B.A.C. to the Department of Transportation / Division of Motor Vehicles (DOT/DMV) as part of the standard civil revocation. Defendant X's tested B.A.C. was in excess of .15%. During the sentencing hearing, Defendant X receives the following punishment:

Defendant is found to be a Level 5 for sentencing purposes. Let him be confined to the Mecklenburg County Jail for a minimum / maximum term of thirty (30) days. Said sentence is suspended for a period of twelve (12) months and the Defendant is placed on unsupervised probation. Defendant to pay a fine of \$100.00, Court Costs and the Community Service Fee of \$100.00. Defendant to perform twenty-four (24) hours of Community Service through the Community Service Board and not operate a motor vehicle in the State of North Carolina for a period of one year from today's date unless otherwise approved by the North Carolina Division of Motor Vehicles. Defendant is found eligible for a limited privilege with the appropriate proof of compliance with the Interlock Law.

Many creative Defendants, or those who live on a bus line, may attempt to avoid the requirement of the interlock device. The Big Hurt is that if counsel chooses not to apply for a Limited Privilege for the period of suspension, even after the tolling of twelve (12) months, the D.M.V. will not restore the license without proof of the interlock installation. An important caveat here is, as well as in other areas of this submission, that these conclusions

are not necessary mine. Any assertions regarding the application of §20-17.8 are based upon discussions with Monitech and the way it interprets its responsibilities under the statute. In that there is only one (1) authorized provider of the interlock device in the entire state, one would be remiss in assuming the application of the statute is subject to discussion with Monitech.

A Brave New World

In addition to the improved fuel cell technology that became readily available in approximately 1993, the manner in which Monitech can maintain and interpret the data with the assistance of an on-board computer is astonishing. A substantial amount of information can be downloaded from the device during the bi-monthly calibration of the machine at one of the Monitech regional offices. Put simply, Monitech tracks and reports back:

1. The results, in B.A.C. %, of every test, whether pass or fail;
2. Every ignition key turn;
3. Every engine engagement;
4. Every “rolling” test result;
5. Every “standing” test result;
6. The time and date of every test.

Incidentally, Monitech has the ability to monitor the speed of the vehicle, although that is not currently being utilized at this time. Mr. Mobley points out that, “The capability is there.” All data recorded is the property of the State of North Carolina.

Apparently Monitech intends to report violations on first offender cases to the presiding judge, the office of probation, and the local district attorney. Violations include attempted circumvention of the machine, its equipment and/or test results, the failure to appear for bi-monthly calibrations, and consistent positive test results during start-up, rolling and stopping tests. Consistency would imply repetitive attempts to drive after drinking.

What is really required?

As much as one might attempt to downplay the consequences of an interlock device, it carries with it an enormous burden and social stigma. That could be the very reason the legislature enacted such a law.

There are three (3) general times when the driver of the motor vehicle must be tested: 1. Start-Up Tests; 2. Rolling Tests; and 3. Standing Tests. Although blatantly obvious, and therefore something this author immediately failed to recognize, every person who intends to operate the motor vehicle with an interlock device must submit a breath sample. Innocent family members are brandished with the Scarlet Letter "I" (for Interlock) simply by residing in the same household as an offender who happened to blow more than .15% on the Intoxilyzer.

The process of taking the test, once learned, is surprisingly simple and may be easily changed if the need presents itself. Each interlock device may be modified for the particular user. At this time a standardized approach is being utilized.

Before attempting to start the particular vehicle, the operator engages the hand-held portion of the machine and pushes a button indicating the beginning of the test. After a specified period of time, which is normally a couple of seconds, another tone is heard. The operator then provides a breath sample for such time as is required. Without going into great detail to describe the actual interrelation between tones, light indications, pauses, and breath samples, the test process itself is one of the key aspects of interlock device security, and allegedly prevents the potential for quid pro quo exchanges to start a car. ("Hey, I'll give you \$20 to blow into this plastic mouthpiece.")

Minute or unintentional errors in providing the sample will result in a five (5) minute "lock-out" period. If the buttons are not pushed in the right sequence or the sample is

inadvertently discontinued for any reason, the car will not start. After the five (5) minute waiting period, the subject may try again. The second test, if botched, will result in a thirty (30) minute lock-out period. Thereafter, the operator may choose to call a taxi. He or she could be forced to wait for a substantial period of time to start the vehicle. In fact, in certain instances Monitech might be required to drive to the location of the vehicle and reset the device for a fee.

After driving for a period of thirty (30) minutes a rolling retest is required. The operator of the automobile will hear a two (2) beep sequence and see a light on the front of the handheld unit. The driver can choose to attempt to blow into the device while driving, ergo the name rolling retest and, assuming he or she performs the task satisfactorily, may continue driving.

If the vehicle has been driven for a period of sixty (60) minutes, a standing test is required whereby the driver must pull off to the side of the road and essentially take another start-up test. That makes for a long trip to the beach. The requirement for the standing test is indicated by a four (4) beep sequence and a flashing red light and will be followed by a rolling retest when moving.

The consequence for failing either the rolling or standing test is NOT the sudden stop of the vehicle. In fact, the vehicle will continue to operate with one additional bonus, to wit: The horn will blow incessantly. Mr. Mobley with Monitech explains that, "We might not be able to keep them off the road, but at least we can warn other drivers to get out of their way." Monitech's materials advise officers, "A siren emanating from a private vehicle while underway is a good indication that an interlock vehicle is not being properly operated."

The Positives and Negatives

It has been just over a year since the effective date of §20-17.8 and, despite many of the dire predictions regarding its implementation, the statute is utilized far less frequently than originally anticipated. From the perspective of a court practitioner, maybe five (5%) percent of those accused with first offense driving while impaired violations are subjected to the interlock machine.

One unexpected benefit of the statute is the possibility of providing a reasonable means for repeat offenders to drive to work and support their family. The interlock device allows for a balance between the realistic need of repeat offenders to drive, if only to attend counseling sessions, and the overall desire to protect the public from arguably the most dangerous group of motor vehicle offenders on the road.

Although the opinion might not be shared with many members of the local Bar, circumstances could be worse. Even after a critical examination of Monitech and considering its monopoly in the business, Mr. Mobley is a reasonable man who has benefited from being on the forefront of this technology. He alone began the expense of researching and setting into action the modus operandi in the state of North Carolina for interlock related enforcement. He alone fronted the capital for such a venture. After nearly a decade of effort Monitech is reaping the rewards of proactive investment.

One of the redeeming aspects of Monitech is its insistence on the use of the best technology and most reliable sampling techniques available. For example, the calibration process used by Monitech employs a standardized sample for comparative testing. Unlike the vast majority of jurisdictions in North Carolina, Monitech purchases prepared / premixed samples of alcohol that establish the benchmark for the individual test results.

Mecklenburg County for example, continues to rely on the skills of local Intoxilyzer technicians to mix solutions. During the simple act of mixing the standard or baseline sample, much discretion is left to the particular junior chemist. Given the extraordinary small amount of alcohol in question, the failure to measure any one of the solutions in an environment that is less than sterile or not pursuant to accepted laboratory techniques, can make a monumental difference. Again, a distinct correlation exists between the proximity of the laboratory and the veracity of test results.

For years practitioners have complained of the potential failure to measure a liquid at the base of the meniscus, which can result in an overly strong or overly weak sample. Logic would dictate every test thereafter that is compared to the baseline sample would not be reliable and likely skewed.

Reasonable minds can differ here, as it can be argued with some effect that such “minor” discordant results are easily accounted for by accepting the lower of the two (2) test results and allowing a variance of .02% between the respective samples. At the same time, given the extreme implications associated with a driving while impaired offense with a B.A.C. in excess of .15%, minute or small differences can have significant implications.

Questions and Considerations

It does not take a rocket scientist to come up with numerous questions pertaining to §20-17.8. Because of incongruities between the plain language of the statute and the application of the same, there are potential problem areas.

For example, what happens to the repeat offender who lives in a household where other people drive the interlock car? Would the D.M.V. honestly revoke a limited privilege based on someone else’s repeated violations? For that matter, would a sentencing judge, on

a motion to revoke a suspended sentence, activate the thirty (30) day term for such incongruities?

What of diabetics who cannot have the interlock installed in their vehicle? If the D.M.V. will absolutely refuse to restore a license without proof of interlock compliance, how would one with diabetes ever secure a license? Is that a violation of Due Process or discrimination based upon a disability? Do those with Asthma or Emphysema have any protections available? Must they discontinue use of Primatene Mist™ or other expectorant inducing inhalants that may have trace amounts of alcohol in solution?

How do the courts and other quasi-judicial agencies account for discordant results due to, of all things, Mellow Yellow that has been exposed to sunlight or old Honey Buns? If one has a cold, is he or she to suffer through it without the use of common over-the-counter medications?

Are we all to suffer those with simple, chronic halitosis (bad breath) because they cannot use Scope or Bianca? Should one avoid uncooked puddings or custard based pies because of the vanilla used for flavoring? It may seem extreme; yet, with a Zero Tolerance policy and only a .01% trigger-point for a positive test result, should not one's precautions against the electrochemical response be extraordinary?

What is the standard of review in D.M.V. hearings? If there are time limits on the limited privilege, will the courts be utilizing the data provided by Monitech to catch out-of-hours drivers? Remember, each and every test is recorded. The date and time is recorded. Every attempt to start the vehicle is in the databank. Every time the key is turned is available for review.

What happens when the battery dies on the car? There is reason to believe the driver is stuck. At minimum, there will be an additional cost for Monitech's reset services.

Will there be a substantial increase in Aiding & Abetting D.W.I. cases, where wives and even children assist their family member to start the vehicle? Believe it or not, there have already been two (2) reported cases where small children have been taught the interlock start sequence!

Can clever defense counsel subpoena interlock records for a trial involving new charges of impaired driving? Will there be an affirmative defense that the interlock device is arguably more accurate than the Intoxilyzer and that the accused relied on the results of the interlock test to determine whether it is appropriate to drive?

What happens to indigent persons who cannot afford the annual cost of \$670.00? Does a court of competent jurisdiction have the ability to waive the costs due Monitech? What of people who do not have enough money to buy their own car? If the D.M.V. will not restore a license without proof of a twelve (12) month interlock installation, how can those without personal vehicles ever get license privileges?

Will any upstart company challenge Monitech's state established monopoly? Can the Administrative Office of the Courts wield such unfettered power without challenge in accepting competitive interlock bids? Is anyone even trying?

Are interlock downloads of data admissible in civil hearings? Can an estranged spouse use time and date information to prove dastardly infidelities? Will insurance carriers seek interlock information for accident reconstruction? Will Big Brother begin using the technology for speed detection?

Closing

It has been a pleasure preparing these materials for your review. So as to further assist practitioners of D.W.I. law, whether or not it applies to the interlock device, find included herein copies of the recent statutes cited (§20-17.8 & 15A NCAC 19C.0206), the new Interlock Limited Privilege form (AOC-CR-340), a Petition for Limited Driving Pretrial Privilege (AOC-CVR-9), a Standard Limited Driving Privilege (AOC-CVR-10), and new Fee Petition for Appointed cases (AOC-CR-225). If ever you have questions or would like to discuss the legal issues presented herein, I would appreciate the opportunity to learn! Please call.

-Bill Powers