SMI ADVISORY COMMITTEE

Raleigh Police Department
6716 Six Forks Road, Raleigh N.C.
June 14, 2018 – 1:00 P.M.

MINUTES

(Proposals contained in these minutes are subject to approval by the North Carolina Criminal Justice Education and Training Standards Commission)

WELCOME

Dan welcomed the SMI Advisory Committee Members to the Raleigh Police Department headquarters building, and thanked Member Ethan Brinn for hosting the meeting and providing a suitable location. Dan called the meeting to order at 1:03 P.M.

ROLL CALL

Members Present

Steve Warren
Dub Bridges
Fred McQueen
Chris Gaddis
Anthony Locklear
Dan Worley
Joe Carey
Ryan Weeks
Thad Condrey
Ethan Brinn
Jason McIntyre

Members Absent

Bob Stevens

Visitors Present

Marc Woolverton, Regional Sales Manager, Kustom Signals, Inc.
Kent Hayes, Senior Product Manager, Kustom Signals, Inc.

APPROVAL OF MINUTES

Dan reminded the Committee that a draft copy of the March 15, 2018 meeting minutes was sent by e-mail and asked if there are any revision recommendations to the draft minutes. There was none. A motion was made by Member Chris Gaddis to accept the draft March 2018 meeting minutes without revision, and the motion was seconded by Member Anthony Locklear. The motion carried unanimously.

NC JUSTICE ACADEMY ITEMS – CURRICULUM/TRAINING

Instrument Manufacturer Presentation

Dan welcomed Mr. Kent Hayes and Mr. Marc Woolverton of Kustom Signals Inc.to the June meeting. Dan advised the Committee that Mr. Hayes and Woolverton were attending the meeting to discuss development of the Eagle 3 RADAR system, obtain input and opinion as to its development, with hopes the instrument would be submitted later this year for the 2018-2019 evaluation cycle. Mr. Hayes distributed a series of handouts on the Eagle 3, and also utilized a live static display of the device, and a PowerPoint presentation.

Mr. Hayes requested to ascertain if the Committee would consider previously denied technology, including Fastest Vehicle, Automatic Mode Switching, and certification notification. Additionally, Mr. Hayes requested that we also consider some new technology that is not considered to be at public release and protected. Dan acknowledged that the discussion of this technology will be omitted from these minutes to protect the manufacturers pending patent. Dan recommended that Kustom Signals Inc. present two different models of the Eagle 3. One should have all of the features and functions active on them so an in-depth review of the technology is available to the Committee over the entire evaluation period. The second version could have only those features that we already permit, so the basic framework of the Eagle 3 is considered for approval. Mr. Hayes agreed to follow that recommendation.

Mr. Hayes then inquired about clarification on the light test for the Eagle 3. Due to a special feature referred to as front and rear scan mode, which allows the user to place both the front and rear antenna into simultaneous operation, the generic display on the instrument allows for a shift of the speed window displays so a simultaneous light test is displayed causing the 888 for the front antenna and the 888 for the rear antenna to 'overlap'. When the singular light test is presented, it does not look like an 8 per se. The display is also touch screen, and the user can preset the colors for the display as well. Mr. Hayes stated that due to North Carolina standards, the Eagle 3 would only present one of the antennas at a time, thereby presenting only one target, target lock, and patrol speed reading. However, the full light test is shown as the overlapping 8's and not a true "8". Mr. Hayes also asked if the road graphic, or other icons can appear simultaneously during the light test as well. Dan advised Mr. Hayes that under Appendix A of the Supplement, the requirement for the light test states that only "8" or "8." Can appear in the speed windows, but that all indicators or icons could appear at the same time for a full light test. Several of the Committee members expressed concern on the overlapping 8's in this display. Mr. Hayes offered that an alternative to this would be to have front antenna light test of "888" in each speed window followed by the rear antenna light test of "888" in each speed window, since the front and rear antenna speed windows are shifted off center from one another. Member Fred McQueen asked Mr. Hayes if they could make the instrument show "888" in only one position for both the front and rear antenna, and Mr. Hayes stated that Kustom Signals Inc. could program the instrument to accommodate that, however, it would take more development on their part to achieve that. Mr. Woolverton stated that the device is designed to have the speed displays for the front antenna offset higher than the speed displays for the rear antenna to help the operator immediately acknowledge which antenna (front or rear) is active by mere visual acknowledgement, and recommended that the offset displays be kept, even though the simultaneous operation of front and rear antennas would be deleted. Member McQueen countered by saying that since North Carolina does not allow simultaneous operation of two antennas, the operator is required to manually select which antenna he or she wishes to operate. Therefore, Member McQueen opined, the offset display is not beneficial in North Carolina because we require the operator to manually select which antenna they desire to use anyway. Dan summarized that the display as it is currently presented does not pass our rules and expectations

because it does not show the typical "888" in the speed windows, instead it displays overlapping top and bottom "8" in each segment. Dan asked the Committee what instructions they have for Kustom on how they should develop this unit to meet our standards, or, should we revise our standards to meet their unit. Member Thad Condrey clarified that Mr. Hayes was recommending to essentially show two different light tests, one for the front antenna where "888" shows higher on the faceplate, followed by the light test for the rear antenna where "888" shows lower on the faceplate, then followed by the internal circuitry test. Mr. Hayes agreed that this would allow Kustom Signals to avoid excessive development, and it conceivably meets the North Carolina standard as well. Dan opined to the Committee if there was any language contained within Appendix A that would prevent the allowance of two back to back light tests, or is it required to be one continuous act. Member Ethan Brinn stated that he was not for sure on the language, but that he did not see it as two separate tests, and it appears to him that the procedure is one light test of all the various segments continuously. Dan advised Mr. Hayes that he is positive our current language does not allow for the acceptance of the overlapping 8's in each segment. To accept that, would require a revision to Appendix A and that could take more than a year or two to accomplish. Mr. Hayes stated that he understood. Dan recommended to Mr. Hayes that, based on this information, Kustom Signals Inc. should elect to submit the evaluation versions as having the two sequential light tests of the front and rear antenna. There was no dissent from any Committee member on this, and there was no further discussion on the light test.

Mr. Hayes then began the discussion on the "touch screen" operation, and how simplistic it is. He demonstrated the function and controls using the static display model of the Eagle 3. This feature allows the control of most major functions, including changing of the colors for the screen, without the need for the remote if necessary. Dan remarked that the color choices were helpful. There was no further discussion or dissent on this feature.

Next, Mr. Hayes discussed the "fan noise and interference learning" feature for the Eagle 3. This feature can be both automatic and manual, depending upon the setting. It processes and stores detected fan noise, interference, and harmonics, and then ignores that interference so the measurement of the returning signal is not distorted or affected. If active, the display will illustrate how many reflections are detected as interference and are being ignored so the operator is aware of the condition. Mr. Hayes stated that this technology is similar to the already approved "fan filter" feature, but is different because the device not only identifies when interference is present, but now learns the specifics of the interference and ignores it to prevent it from affecting the reflection calculations based upon copious amount of study and testing. Member McQueen recommended that the feature be locked into the automatic setting, and not leave it for the operator to determine. Mr. Hayes recommended that the manual option still be provided, because even in the automatic setting, interference can occur from new sources. By having the option for manual activation of the feature, Mr. Hayes stated that it could learn and ignore the interference much quicker than if it was on the automatic setting. Member Joe Carey asked if there is a memory on this feature, and Mr. Hayes stated there is no memory to this feature at this time. Once the instrument is powered off, it forgets the interference settings it has learned during the previous powered time span. Member Dub Bridges asked that if active, has testing of this feature shown that any negative effect on the speed measurement occurs while this feature is active, and also if the device will still blank the target speed if interference is detected. Mr. Hayes stated that absolutely no negative effects have been detected, and that this feature only benefits the operator by excluding interferences that could otherwise cause target speeds to blank out due to interference. Mr. Hayes went on to confirm that the Eagle 3 does still blank the target speed anytime interference is detected to the point that manipulation of the reflected signal is possible. He also added that blanking of the target speed due to interference is still a federal requirement for RADAR as well. There was further clarification

discussions among several of the Committee members on this feature, but no dissent was expressed.

Next, Mr. Hayes discussed the "Dura-Trak" feature for the Eagle 3. This feature provides the operator with both signal strength and time duration of the track of any particular target all the primary display. A timer will display the time of track, and a series of bars will indicate how strong, or weak, the reflected signal of the target is at the time of tracking. Essentially, it is a form of target selection assistance like that of ranging technology, just without the actual range to the target. Member Condrey clarified that this feature is a visual translation of the tracking history, and Mr. Woolverton agreed. Member Brinn asked if the device bounces between a couple of different targets, does it reset the timer and signal strength. Mr. Woolverton said the device has the technology to track up to 16 different targets at the time, but it only illustrates one (the strongest) reflection of those potential 16 targets. There was further clarification discussions among several of the Committee members on this feature, but no dissent was expressed.

Next, Mr. Hayes presented the "Wireless Speed Sensing" feature. This feature essentially verifies the patrol speed by satellite technology with no wired connection to the vehicle. This feature is designed to eliminate common RADAR errors like shadowing, combining, and batching. Dan asked if the low Doppler shift was at 48 mph and the satellite suggested 52 mph, would the RADAR stay with the low Doppler shift? Mr. Hayes stated that if any conflict existed between the satellite data and the measured patrol speed, the Eagle 3 would simply blank out patrol and target speed windows and not allow any measurements to be made until synchronization was achieved. Dan verified that the process would be exactly the same as it does already with the wired signal off the vehicle speed sensor, and Mr. Hayes agreed. Member McQueen asked if this feature would be optional to the operator, and Mr. Hayes stated that it would be procedurally automatic, and not manual.

Next, Mr. Hayes presented the "Automatic Fork Test" feature. This feature would offer guidance of a pre-calculated tuning fork test procedure, automatically verify if the measurements were correct, and could be programmed to prevent operation of the device until a successful tuning fork test was conducted. Member Chris Gaddis stated that he has no issue with a feature that prompts an operator during the tuning fork test to ensure compliance with proper tuning fork testing, however, the prompts in the software should coincide with the standardized method by which we perform tuning fork testing as specified by Appendix C. Member Gaddis stated that this was necessary to maintain standardization and ensure courtroom testimony in our procedures are maintained. Mr. Hayes stated that he would be willing to program the software to match the North Carolina tuning fork standard, and stated he would refer to the daily test for accuracy standard for that procedure. There was no dissent on that proposal.

Next, Mr. Hayes then discussed the "Electronic Tuning Fork Test Remote Control" feature. Mr. Hayes stated that this technology is pending patent, and is protected as trade secret under the open meetings law. Therefore, the discussion and details of this feature is omitted.

Next, Mr. Hayes discussed a series of technologies that included "Quik Trak," "Audio Volume," "Range Sensitivity," "Color Selections," and "Display Brightness." All of these technologies represent modern examples of technology that are already approved. There was input provided on each of these topics as to development, but no dissent was expressed.

Next, Mr. Hayes discussed "Automatic RADAR Log," where the RADAR stores a log of fork tests and locked target speeds recorded. The patrol speeds are redacted. This information would include the GPS mark locations as well, and the data is retrievable as an excel spreadsheet. There was no discussion or dissent on these technologies.

Finally, Mr. Hayes discussed "Scan Mode" feature. This allows for dual antenna operation and allow the operator to monitor multiple zones simultaneously. It will also permit an automatic switch between target displays and required the operation of fastest vehicle feature. This feature would look for the fastest target on either the front or rear antenna simultaneously. Several of the Committee members openly discussed the many concerns of this feature, and how they felt the approval of this feature could affect the reliability of the testimony from the operator and the integrity of our program overall.

With no further discussion, Dan thanked Mr. Hayes and Mr. Woolverton for their time and presentation. They remained until the completion of the meeting so further demonstrate the unit and answer any additional questions.

CJ STANDARDS DIVISION ITEMS – STANDARDS

C.J. Standards Update

Member Jason McIntyre reported that Criminal Justice Standards Division is experiencing no significant issues with the submission of SMI test forms that instructors are sending in. He is very appreciative for the job instructors are doing in this area.

Member McIntyre reported that the ideal objective for certification returns are 14 days, but due to the many responsibilities that they are covering at this point, the realistic goal is about 4 weeks. He reminded the Committee that there is a SMI e-mail address, and it is very helpful for the submission of SMI forms to occur in that inbox.

INFORMATIONAL ITEMS

Commission Meeting Update

Dan advised the Committee that Member McIntyre and himself presented all of the recommendations to the Education and Training Subcommittee of the Commission at their May meeting, and that all recommendations were approved without revision. There was no further discussion on this topic.

OTHER BUSINESS

Term Renewals: None

Next Meeting Date: **September 06, 2018 at 1:00 P.M.**
Location: **Criminal Justice Standards Division, Raleigh N.C.**
Host: **Member McIntyre**

Other Business to Address?

Member Dub Bridges announced that after 44 years of service to the State Highway Patrol, he has decided to retire and enjoy life. Member Bridges spoke to the Committee and expressed his appreciation to the Committee for all the feisty discussions and effort that is put into the recommendations that we collectively endure in the goal to manage the best SMI program in the United States. Dan asked Member Bridges if he had a recommendation to fill this technically

specific position on the Committee. Member Bridges reported that he contacted Troop F Radio Engineer Supervisor Rick Hurmon of the State Highway Patrol, and that he agreed to assume the position formerly held by Member Bridges. Dan thanked Member Bridges for his many years of faithful service to the Committee, and to the State Highway Patrol.

Dan also commended Member Chris Gaddis on his promotion to Assistant Chief of the Burlington Police Department. Dan thanked Member Gaddis on his support of the Committee, the North Carolina Justice Academy.

ADJOURNMENT

With no further business to address, the meeting was adjourned. Member Ethan Brinn made a motion to adjourn and was seconded by Member Chris Gaddis at 3:25 PM.