

Body Armor Manufacturers Webinar Report
January 25, 2017
1 – 2 p.m.

Presenters: Mike O’Shea, Alex Sundstrom, Dan Longhurst, David Otterson

Facilitator: Lance Miller

Attendees: 123 registered; 93 attended.

Note: This is the first in a series of planned webinars, which will replace the previous Body Armor Manufacturers Workshops held in various locations in the Baltimore-Washington metropolitan area. The goal is to save time and money for both attendees and the JTIC contract, while continuing to keep the manufacturing community fully informed and the lines of communication open.

Mr. O’Shea

Mr. O’Shea welcomed attendees and explained the goals of the webinar. In addition, he briefly mentioned planned changes to the Bulletproof Vest Partnership (BVP) authorizing legislation, which will require all armors purchased with BVP funding to fit the individual measurements of the wearer. He referred them to PoliceArmor.org and JUSTNET for more information and for links to additional resources on body armor fit, and told them that more information will be released by the Bureau of Justice Assistance in the near future.

Mr. Sundstrom

NIJ Certification Mark (see slides 3-6)

Points not included on slides:

- Most manufacturers have begun using the Mark. Those who have not yet done so need to become familiar with the requirements for implementing its use.
- The Applicant Agreement, which is the first document a manufacturer completes on enrollment, has been revised.
- The Ballistic-resistant Body Armor Scheme has been revised to include requirements for use of the Mark. It is important for manufacturers to review this before completing the Applicant Agreement.
- The new Letter of Authorization for legacy armor includes authorization for use of the Mark. It lists the numbers of every model on which a manufacturer is authorized to use the Mark.
- The Letter of Authorization for new armor models has been revised to include verbiage about the Mark. This letter applies to one armor and to one armor only.

Testing Information Management System (TIMS) (see slides 7-9)

Points not included on slides:

- Manufacturers not registered in TIMS should register as soon as possible.
- Registration is as simple as creating a user name and password. On approval, the manufacturer can begin submitting armor using TIMS.
- Test IDs created by CTP staff outside of TIMS are no longer valid. If a manufacturer has an existing Test ID number, that manufacturer must register for TIMS and get a new unique ID number from TIMS.

Mr. Longhurst

NIJ Ballistic-resistant Body Armor Standard 0101.07 Update (see slides 10-17)

Points not included on slides:

- The 7.62 x 39 short round is typically fired from an AK-47.
- It is not possible to predict future trends in the ammunition market accurately, but the goal is to select test ammunition that will continue to be available five years from now.
- Integrating NIJ standards with those developed by other standards develop organizations (SDOs) will facilitate the testing process by ensuring that laboratories don't need to, for example, condition clay differently for NIJ and U.S. Department of Defense testing.
- The criminal justice community provided a great deal of relevant feedback on how the current naming convention leads to confusion among rank-and-file officers. Although it is second nature to manufacturers, it is not clear to field officers. The new hierarchy should reduce that confusion.

Update to 0108.00 Ballistic-resistant Materials Standard (see slides 18-20)

Points not included on slides:

- This update was undertaken and completed quickly to address a number of concerns related to the standard in general and to the specified ammunition in particular.
- The revision also updates procedures to reflect current laboratory practices.
- It is currently anticipated that a draft for public comment will be published later in 2017, and after concerns raised during public comment are addressed, the standard will "go live" and all ballistic-resistant materials will be tested against it from that point in time on.

Universal Threat Matrix Development (see slides 21-23)

Points not included on slides:

- In discussions related to both the ballistic-resistant body armor and ballistic-resistant materials standards, it became apparent that the relevant threats don't change from material to material.
- Introducing a single reference point that dictates the type of ammunition and the test velocities allows NIJ to make an update in one place that is then reflected in several places.

NIJ 0115.01 Stab-Resistant Body Armor Standard Update (see slides 24-29)

Points not included on slides:

- Breaking out two distinct classes for commercial and inmate-made threats is a key change.
- Discussion with criminal justice professionals indicated that corrections officers believe that their existing vests provide protection against both edged-blade and spike threats, hence the introduction of the requirement that all vests provide such protection.
- Inmates are not able to develop finely honed edges and points, thus the test exemplars for inmate-made weapons reflect bunt edges and tips.

Dr. Otterson

Standardized Testing of Ballistic-resistant Shields (see slides 30-35)

Points not included on slides:

- A survey of laboratory practices indicated slight differences in testing procedures.
- In response to requests from the field, NIJ tentatively plans to implement a Compliance Testing Program similar to the ones used for ballistic- and stab-resistant body armor.
- The draft standard focuses on testing individual features and includes descriptions on how to test, for example, windows, shield faces and bolts. It does not call out ballistic threats; NIJ will adopt the Universal Threat Matrix for testing (see earlier presentation).
- The shot pattern for shield windows includes angled shots where the window and body join together and three shots in the center modeled after the tight cluster in the ballistic-resistant body armor shot pattern.
- Shots placed on other areas of the shield will probe weak features such as bolts and handle tie-downs.
- Pass/fail criteria relate to perforation of an aluminum witness panel located behind the shield body.
- The schematic for the standardized test rig is designed to hold shields in a similar manner to how they are held by the user. The rig will need to be updated from time to time to reflect the current state of the industry.
- Manufacturers may join ASTM and participate on the committee that is developing the standard; this includes being able to vote on the draft standard. Anyone who is interested should contact Dr. Otterson for more information.

Question and Answer Session

Note: Many questions were received that were similar in nature; one response only was given that addressed similar concerns. Thus, some questions listed here are paraphrases that capture the overall intent of several questions. A comparison was made to the question log to determine questions that were not answered in real time; responses to those questions appear at the end of this section.

Live Q&A

Q: What are the maximum days allowed for a manufacturer to receive an authorization letter once samples are received at JTIC?

A: Receiving a Letter of Authorization for legacy armor is a simple process and should take only a few days once we receive the request. For new armor, our previous goal was to get it done in eight weeks, but with TIMS just starting up and it being the first time for everybody to use it, there could be a little delay as we refine the process. If you have concerns about a particular armor, please contact the CTP.

Q: Will the FIT testing be managed through TIMS?

A: We will continue to manage FIT in the same manner as we do at present. We hope to add another component to TIMS eventually.

Q: Can you tell us about the timeline for public comment on the new standards?

A: We plan to release the stab standard for public comment in the spring and the ballistic standard in the spring or summer. From there, the number of public comments we receive dictate the amount of

time it takes. We must address every comment, but they will be implemented as soon as possible after that occurs.

Q: Are you working with the State Department on how all of this applies to ITAR?

A: Yes.

Q: How will this impact Level III-plus armor?

A: We are aware of the prevalence in the market of Level III-plus armor. In the new nomenclature, this will become RF2. It will be tested against two of the same threat rounds as RF1, with the addition of M855. Please keep in mind that at the moment, these are proposals only, using threats identified by the STC. They are not yet certainties.

Q: Can you address issues of ammunition availability?

A: Everyone who works in the industry knows how difficult it to procure some of the ammunition specified in 0101.06. We are looking into procuring some ammunition that is made specifically for NIJ testing for 0101.07.

Q: When can manufacturers see the draft standards for ballistic and stab armor?

A: The drafts will be available during the public comment period.

Q: Will a Type IIIA rigid stand alone hard armor plate be allowed to be IIIA certified if it meets all test standards?

A: Models are addressed on a case-by-case basis.

Q: Regarding placement of the NIJ Mark, will it be placed on labels for purpose of testing?

A: Do not place the Mark on a test label. The NIJ Mark only goes on NIJ-approved armor, after the armor has gone through the entire process and you have a Letter of Authorization in hand.

Q: Does 0101.07 address molded semi-rigid armor?

A: We didn't specifically address this in the development of the standard. 0101.07 makes only incremental, not wholesale, changes. This is a vague term that is outside the scope of the standard and will be handled on a case-by-case basis. Just to reiterate, the availability of the standard draft will be announced in a *Federal Register* notice. Please keep eye out for it.

Q: Will 0101.07 require armors to also pass the tests for lower level armor?

A: We did discuss backward compatibility, and the answer is no. We have tried to design the threat matrix to generate a level of confidence that, for example, an RF2 armor would also pass RF1 testing by including both similar and different threats.

Q: Are there plans to change the handgun threats, specifically the .345 Remington and the .44 Speer?

A: We looked at the rounds and retained both. We are still discussing this decision, based on the future availability of the ammunition.

Q: Will the shooting pattern for soft armor be changed in the new standard?

A: This was not highlighted as an area that needed change or improvement, and was retained.

Q: Regarding 0101.07 hard armor, will it continue to require six shots or will it be reduced to three to reflect the DOD standard?

A: Yes, it will be dropped to three.

Q: Is the 7.62MMx39 MSC referring to PS ball? This has a steel core but it also has a steel jacket.

A: We're still working on the specific ammunition. That one is on the radar, it's one of the rounds we're looking at.

Q: Regarding the three shots, how many will be measured for backface and has the backface measurement of 44mm changed?

A: The measurement has not changed. I will have get back to you on how many shots will be measured; that remains to be addressed.

Q: Can you expand on female armor testing? Is there a standardized way of testing?

A: Yes, there is a predefined bust buildup. We are looking to exploit air gaps, overlaps, cups, folds and areas of strain in the material. This information will be made available to manufacturers at the appropriate time.

Q: Is one shield expected to withstand all 15 rounds in the diagram?

A: Each shot is considered an event, with the exception that the cluster of shots represents a single test event. A manufacturer can choose to put all of them on one shield, or choose to use a different shield for each event. The reasoning is that during an actual event, you wouldn't have angled shots coming from opposite directions.

Q: Does NIJ intend to test soft armor accessories?

A: Not under the 0101.07 revision.

Q: What is the dispersion of the cluster shot on the shield?

A: It exactly matches the pattern for 0101.06 soft armor. We've done a lot of testing and we believe that shields can handle it pretty readily.

Q: If a manufacturer elects to have a Level IV armor tested as multi-hit, how is this indicated on the label, the CPL and the letter of authorization?

A: This has not been discussed. In order to implement this, we would have to discuss it with NIJ; it may be a good thing to do.

Q: There has been a lot of confusion regarding the terms "certified" and "compliance," and the NIJ Mark says Listed. Are armors to be called listed or certified or compliant?

A: It says listed because it's on the CPL, which is a list of certified products. All three terms mean the same thing. Remember that if it hasn't gone through the testing process, it can't carry the Mark.

Q: Regarding the transition to when new armor is stood up, will the 0101.06 CPL be removed at the time?

A: We believe there will be an extended transition period. We will begin testing for 07 compliance and stop 06 testing, but we will keep the 06 list up for an undetermined amount of time. We realize that armors will be in the production process and that agencies will continue to wear 06 armor. We don't know the time period yet.

Q: Regarding the stab standard, do I understand correctly that spike vests for corrections and commercial will both be required to provide edge and spike protection? There will no longer be separate classes for spike or edge?

A: That is correct. In order to pass, a vest must resist both edged and spike weapons. This was done to reflect feedback from practitioners, who believed that vests already did provide both types of protection.

Q: Is the intent for shields to have a CTP similar to soft and hard armor where products are tested, or will this be a standard to test against for a declaration of conformance?

A: Think of what ASTM is developing as a test method. NIJ will build something similar to 0101.06 that uses the test method, and then create a CTP to implement it.

Q: Will the shield samples be full size or a required size?

A: We believe they will be full size. We are looking for feedback from the manufacturers, and you are encouraged to join the ASTM committee.

Q: What is the timeframe for shields?

A: The standard will be out for ballot by summer, and the second round of balloting will take place in the fall. At a guess, NIJ may be looking to stand up a testing program about a year from now.

Q: Will rifle shields have the same cluster placement as pistol shields?

A: No, the pattern will be different for rifle protection, but it will use the same number of shots.

Q: Is the Mark protected internationally?

A: Yes, it is trademarked. NIJ has the right, through its [the Department of Justice's] Civil Division, to go after people who illegally use the Mark. The reason for creating the Mark in the first place is to go after manufacturers who were saying their armor was certified when it had not gone through the testing program. With the implantation of the Mark, NIJ reserves the right to go after these manufacturers legally.

Q: Is there a contact method or an assigned contact at NIJ for reporting non-compliant use?

A: As always, notify the CTP about any issues. The CTP will notify Mr. O'Shea, who will work with NIJ Civil and the Office of General Counsel.

Q: Are test labs to be instructed that when conducting non-NIJ testing when the test meets all of the NIJ requirements, the product is not certified even if it passes?

A: Any testing that is not done for the express purposes of obtaining NIJ certification is outside the scope and purview of the CTP.

Follow-up Responses

Q: Is the .223 going to be green tip or FMJ?

A: We are looking at both the M193 and the M855, depending on the level of protection.

Q: What are the bullet characteristics of the .223 and 7.62x39 i.e. grain, fps, core material?

A: The 5.56mm is anticipated to be either the M193 or the M855. The 7.62x39 PS Ball specs are still in development, but are intended to be a mild steel core.

Q: What .223 rounds are being considered for adding to the standard?

A: See previous answer.

Q: Is the hardness of AK-47 MSC defined?

A: The 7.62x39 PS Ball specs are still in development, but are intended to be a mild steel core.

Q: Any changes to the Type IV threat from the M2 AP?

A: There are no changes anticipated at this time.

Q: Regarding .357 SIG FMJ-FN (Flat Nose), will this be changed to FMJ (round nose?).

A: There are no plans to change this spec at this time, but discussion within the STC is still ongoing.

Q: Once approved to use the NIJ Mark, for how long can we continue to sell existing stock of armor that was produced without the NIJ Mark?

A: Once a manufacturer is authorized to use the NIJ Mark, all new production armor must display the NIJ Mark. Armor produced prior to the manufacturer's being authorized can use the NIJ Statement of Compliance.

Q: Regarding submitting new labels for legacy armor using the new NIJ Mark, do we need to submit sample labels for all additional listees for each model? Or can we simply submit the primary manufacturer's label?

A: A single representative label for legacy armor is sufficient.

Q: Has the steel type been identified for the threat instruments for the 0115?

A: No, not for all the implements yet. This is something that we are currently working on.

Q: Will the ASTM be used to weight and thickness the soft armor?

A: The NIJ CTP will need further clarification on this question in order to provide a response.

Q: Will there be any type of document/flyer that NIJ has prepared which manufacturers may use to notify customers within the law enforcement community regarding the new NIJ mark and how this mark represents compliant product and what to look for on labels?

A: Yes, but what type of document or communication has yet to be determined.

Q: Will the 0101.07 hard armor shot pattern be more specific in exact locations of testing?

A: The locations of testing will be prescribed by a template, adhering to the minimum shot-to-edge and shot-to-shot distances. The template can be moved or rotated.

Q: Number of shots to be tested on SAP and HAP?

A: Please provide clarification as to which levels you are referring to.

Q: Conditioning protocol of HAP and SAP will remain same as NIJ 01010.06 or there will be some changes?

A: There will be incremental improvements and the HAP conditioning will be as per ASTM Guidelines.

Q: Mechanical durability test of HAP will remain same as per NIJ-10101.06 or it may change in new standard?

A: See previous answer.

Q: What is the timeline for the Universal Threat Matrix to be available?

A: TBD.