On new initiatives in terms of safety standards and side protection …

Hilber: The basic standards the Army uses for the Military Combat Eye Protection (MCEP) program on the Authorized Protective Eyewear List (APEL) items remain unaltered with the exception of the baseline standards.

One change that has affected MCEP items to a minor degree is that the new American National Standards Institute (ANSI) standard Z87.1, issued by ANSI, has an increased testing requirement for side protection. The 2010 version was issued publicly in May of last year, and it supersedes the previous 2003 standards.

That change meant that some manufacturers had to make modifications to the side shields to match up with the new standards.

From the viewpoint of ANSI, once new standards are issued, their expectation is that suppliers will comply. That applies to all items that aspire to meet that standard, all across the U.S., not just military items.

Col. Dr. David J. Hilber, USA, Doctor of Optometry, Portfolio Operations Manager for Occupational and Environmental Medicine, senior member of the Tri-Service Vision Conservation and Readiness Program (TSVCRP), U.S. Army Public Health Command

‘Vision Ready Is Mission Ready’

As the senior member of the Tri-Service Vision Conservation and Readiness Program (TSVCRP), Occupational and Environmental Medicine Portfolio, U.S. Army Public Health Command (Provisional), Col. Dr. David Hilber, USA, Doctor of Optometry, is highly focused on the command’s effort to promote usage of approved eye protection gear among servicemembers, among a wide range of related initiatives. As the TSVCRP motto emphasizes: “Vision Ready Is Mission Ready.”

E and C News first spoke with Col. Dr. Hilber for an article in our August 2009 issue, so it was time to check up on the latest developments in military eyewear protection and within TSVCRP. Excerpted below are some highlights of our conversation.

On the updated May 2010 APEL list …

Most of all the items that were on the previous list are still there, along with the addition of several new ones. One item, however, was voluntarily removed — not because of a problem with the item, but because the manufacturer, ESS, had a new item called the Crossbow. The manufacturer removed the ICE and its smaller companion, the Naro, from the list so they could put the Crossbow on in its place.

Part of the reason that they did that was because it was a new, improved design, and it shares an insert with the Oakley SI M Frame. The SI M Frame is a very popular item that did not previously have an approved insert. Now, the Oakley has an insert available through the military labs. The ESS goggles and the ESS Crossbow and the Oakley SI M frame all share the same insert.

In addition, there are new items from Smith Optics: a spectacle called the Aegis, and a goggle called the Outside the Wire goggle, which share a common insert.

Wiley X has a completely new item on the APEL called the Talon. Its shape is a little bit flatter than previous items. Part of the reason it was added to the list is that one of the program goals involves a push by Program Executive Office (PEO) Soldier to get the manufacturers to come up with ways to flatten the inserts. This is because people with higher prescriptions sometimes can have problems adapting to the curvature of the prescription insert item.

The Wiley X Talon’s insert now fits inside more like a pair of standard glasses, the intent being to reduce that adaptation process if the servicemember has a higher prescription.

The new insert for the ESS Crossbow and Oakley is also flatter than the previous ESS insert. Their implementation is a little different. To get the flatter curvature they use an extended nosepiece on the eyewear.

Increased side protection, fogging and scratch resistance, and the use of polycarbonates for prescription inserts are just some of the initiatives Col. Dr. David J. Hilber, USA — seen here at the Camp Stryker Troop Medical Clinic, Iraq — is pursuing with other entities, such as PEO Soldier and the military’s Optical Fabrication Enterprise.
On extending the safety range for inserts with polycarbonate ...

Another big change that was primarily a push from our office regarding original items, was that when all the testing was completed, all of the items that used inserts were certified as having passed the Army standard with CR-39 plastic in the inserts. They all met that standard, but there was a concern about whether it would be better overall, just from a safety standpoint, even though they passed, to make the inserts out of polycarbonate.

It’s an argument that various entities have been trying to make for a number of years. We’ve received some testing that the manufacturers submitted, conducted some discussions with opticians, and the people who did the testing, and pretty much everybody was in agreement that from a safety standpoint, it would be better to use polycarbonate. We made that argument on a medical basis, and were successful in doing so.

One of the issues with using polycarbonate, however, is that it involves a cost increase across the board. It also wears out machinery faster, so some re-tooling becomes necessary in the lab.

Currently, we have the agreement to use polycarbonate for all inserts, and we’re assisting in the effort to secure the equipment and funding for the military’s Optical Fabrication Enterprise (OFE) labs, which produce the inserts.

This is not a standard change per se, in that we already know items on the list have passed with CR-39 inserts. What we’re doing by changing the inserts to polycarbonate is we’re extending that safety range.

One of the differences, and one of the safety concerns, is that CR-39 has more of a tendency to break or shatter in the worst-case scenario. Polycarbonate, however, even when it fails, doesn’t break or shatter. We’re looking at an incremental safety increase rather than a change in the standard.

On standardization of inserts and Rapid Fielding Initiatives ...

All but three of the eyewear items have approved prescription inserts, which leads to a total of five different inserts on the current list. In other words, each manufacturer has its own inserts. Part of the reason that ESS and Oakley share an insert now is that ESS is owned by Oakley, so it’s easier for them to do that.

However, having five different inserts can lead to some issues. Since many of the deploying warfighters receive their items when they go through Rapid Fielding Initiatives (RFI), they get whatever is issued at their respective RFI locations. This changes depending on the funding and Congressional emphasis on which items are allocated for RFI.

As a result, we don’t always know what is being issued. Also, the service members don’t always know what they are being issued and which insert should be ordered.

We’re pursuing several courses of action to try to help remedy that situation. The primary one that we’ve already implemented is that our office developed a set of three cards that we provide to the optical fabrication site, and for every insert order that they create, they will put a pack of these cards in, so that the service members — at least at the time that they get the insert — will have a card that has all the spectacles and all the goggles on it. The goal is that they’ll circle the one they have in their wallet, and the next time they need to order, they will know which one they have. Or if they need a different one, they can highlight that one.

The other thing we are trying to do is to streamline so as to make RFI issuing more predictable, and so that clinics can be alerted ahead of time.

The final, and most important, one — and this is a longer term project, championed by PEO Soldier and supported by our office — is that we are pursuing an effort to move toward a universal insert. The first step is to request samples of various proposed inserts. Then we will conduct an evaluation. PEO Soldier will lead this. The result of that will be a requirement for the manufacturers to make that insert work with their items.

We don’t want to impair the ability of manufacturers to design new items, but we want to limit the concerns on the logistics end and the clinics’ end arising from multiple inserts.

We’re also going to ensure inserts have the best field of view possible, but we want to make sure that it works with all the current items. The intent isn’t to decrease any manufacturer’s ability to continue to use the current products. We are going to have to work with everything currently there. Then, in the future, if they are proposing a new item, they will know what the insert parameters are, so they can ensure that it will work with their products.
Much work is being done in that area — it’s a big effort from manufacturers just from a user satisfaction perspective.

On aviation-specific standards …

Another new effort that partly originated in this office in conjunction with our Air Force representative centered on the perceived need a few years ago to develop a similar set of items on the aviation side. The aviation community found that some of the APEL items didn’t fit necessarily the same with some of the helmets and other aviation equipment. Requests from the Air Force came in for other items that fit better with the helmets that attach a different way. That initially led to an effort by the Air Force to develop what they are calling the FPEL, or Flight Protection Eyewear List, which is similar to the APEL, but is geared toward aviation.

It is a great idea, and we are currently trying to move that forward as a multi-service effort, Army, Air Force, Navy, and Marine Corps for all aviators, so that they have a similar flight list that they can choose from.

On lingering concerns …

If you are looking at good things to come out of a nine-year conflict, the acceptance of safety and ballistic eyewear by the services for the warfighters is great. However, there is always a lingering concern in the back of our minds at our office here, that once

On scratch and fog resistance …

One issue that continually yields some of the biggest complaints from the user end is scratch resistance and fog resistance.
Corps Exchanges (MCX) and Navy Exchange Service Command (NEXCOM) stores, it's about building and maintaining that awareness that when Soldiers, Sailors, Airmen and Marines are asking what type of safety eyewear they should buy, the answer should always be APEL, especially if it is for deployment or for training.

The caveats to that are when specific ASTM-rated items are needed for sports, or for specific situations, for example, chemical splash-resistant goggles and welding eyewear.

For pretty much everything else that concerns soldiers and recreation, the choice should be APEL items.

On his message for manufacturers ...

The manufacturers are pretty well informed on this. Many of them have retired senior enlisted NCOs on their staffs, NCOs who are in tune with the people and the concerns, and they go out and talk to the Soldiers, Sailors, Airmen and Marines are asking what type of safety eyewear they should buy, the answer should always be APEL, especially if it is for deployment or for training.

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On building awareness in retail ...

Also, if we are talking about Army & Air Force Exchange Service (AAFES) in particular, installation Military Clothing Sales Stores (MCSS), Marine Corps Exchanges (MCX) and Navy Exchange Service Command (NEXCOM) stores, it's about building and maintaining that awareness that when Soldiers, Sailors, Airmen and Marines are asking what type of safety eyewear they should buy, the answer should always be APEL, especially if it is for deployment or for training.

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On recreational use of safety eyewear ...

There is one question about recreational sports eyewear safety. I think it is important to note that if people are back in garrisons in a non-deployed situation, there is a specific set of eyewear standards.

For example, if people are participating in specific sports, like racquet sports, football, baseball, paintball, and there is an American Society of Testing and Materials (ASTM) standard related to it, then their purchases should involve the ASTM-rated eyewear for that sport.

If they're deployed, it's not realistic to expect them to do that, and the APEL items will meet the basic standards for most sports, so if people are downrange and playing basketball, they put their strap on, and they can use these items for recreation and sports while they are deployed.

If you look at recreational use as separate from sports, one of our catchphrases that we are pushing in our marketing — because all of these items, and certainly the spectacles at least, are issued as individual items including for personal use — that "they are as good at home as they are on the battlefield."

We think a lot of the effort in the past 10, 15, 20 years in reducing eye injuries at work has paid off. There hasn't been the same sort of effort, or the same sort of buy-in on the home side. We are trying to encourage the use of safer eyewear when service-members are out boating, doing general recreation activities, working in the wood shop at home, in the garage, or on the car.

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And of course, they are communicating with PEO Soldier. They stay well informed of all of the requirements.

I have a message for them. Stay in touch with PEO. Stay on top of the trends.