Dear,

The Swedish Powerboat Association is very concerned about an issue that has occurred regarding Circuit rule 205.11. We will not accept an answer regarding how to interpret the rule since it is very clear what the rule says – We want to know **how** UIM intend to solve the issues of our concern.

205.11 - CLOTHING PROTECTION

It is mandatory that cut resistant clothing ***with fabric that satisfies a minimum cut resistant level 3 of ISO 13997:1999*** be worn by participants in all boats without reinforced cockpits. All limbs of drivers in both reinforced and non-reinforced cockpits must be covered. A one-piece overall suit must be worn in reinforced cockpits.

The rule clearly says that all parts of a person's body should been covered of clothing, which the driver can assure, that it reaches ISO 13997:1999 cut resistant level 3 or higher. No other standard's testing procedure is valid – you have to be very clear in this matter. An arbitrary interpretation is not accepted, it will be impossible to handle this issue on race places otherwise. Who has the knowledge as well as the trust to define what an equivalent satisfying testing method is? In addition, how do we reach a consistent judgement?

If this rule should be manageable at races there must be a homologation procedure that eventually ends up with a certificate of approval. Have UIM prepared a homologation procedure like the one of CIK-FIA? Has UIM talked to the manufactures about the UIM-requirement?

This issue worries the Swedish Powerboat Association a lot since we highly doubt that there is an interest among the likes of OMP, Sparco etc since we are a small sport with a restricted market to make profit on. However, we do hope that UIM can give us a positive answer on our above stated questions in this matter.

We are now in a situation where **no previously approved** race suit is approved any more. The previous rule said that the race suit should consist of Kevlar 29 or an equivalent material. In terms of that rule, the CIK-FIA Level 2 race suits were sufficient. However, since there is no ISO 13997:1999 test in their homologation, none of these race suits are approved. Please see the following link;
http://www.cikfia.com/fileadmin/content/REGULATIONS/Homologations/Homologations%20Regulations/2017/Reglement_d_Homologation_Combinaisons_2017__Appendices_included_.pdf

One other very popular fabric of race suits is GA Racing, which have a model that aligns with the old rule since it consist of Kevlar 29 – but neither them has performed the ISO 13997:1999 test.

The Swedish Powerboat Association requests all research behind why UIM has chosen this level of cut resistance for all circuit classes without reinforced cockpit. As e.g. we would like to shed light on that there is a massive difference between a 15 hp GT15 boat with an engine that has an max RPM of 6000 and top speed of 65 km/h compared to a F350 boat with approximately 80-100 hp, 13000 RPM, and top speed of 175 km/h. To have the same rules of requirement for every class make us feel that the construction of the rule is very arbitrary. The purpose of the rule is highly questionable.

On Facebook, an e-mail, which Mr. Bob Wartinger has wrote, has be published. The content of this e-mail worries us in the Swedish Powerboat Association in a large extent since we know that Mr. Wartinger is greatly involved regarding safety issues within UIM. Is this a message of Mr. Wartinger written as a private person or as a representative of UIM? See Appendix 1.

Mr. Wartinger suggests various materials of clothing, which are classified to what Mr. Wartinger assumes to be comparable. The Swedish Powerboat Association wonders where we find the documentation that states that in every different case those standards are 100% equivalent to the ISO 13997:1999 Level 3 and not just comparable in Mr. Wartinger's way of interpreting it?

In the end, Mr. Wartinger gives no real suggestion of how a driver can certify himself that the actual protection clothing he/she has bought fulfills the requirements of ISO 13997:1999 Level 3. We find it very unserious and unfair to hand over to the person who perform the safety inspection that he/she should evaluate at the race place if a brand fulfills the requirement or not. Mr Wartinger's inspection method is some sort of an exclusion method where you should end up with an assumption – that is **not** a worthy and acceptable method. Furthermore, we find it naive to believe that single persons would have the possibility to push/force manufactures to do ISO-tests, which they normally not use to perform – this is an expensive matter for them.

We do hope that you take this issue serious, there is no room for personal interpretations of this rule and we need clear answers on how we move on. We highly doubt that the intention is to have a rule that makes it impossible to participate in a circuit racing class that is without reinforced cockpit.

Appendix 1

Over the years I have witnessed cut resistant testing of fabrics at Security Race Products so gained some familiarity with the fabrics.

Yes, the FIA standard is more for abrasion/thermal protection.

Here is a link to a brief general description of the test and the levels (1 through 5). https://www.satra.com/spotlight/article.php?id=394

Here is the statement from the ISO that says the standard (1999) is still current https://www.iso.org/standard/22960.html .

The TuffNLite is gray in color as are most of the higher levels of cut resistant fabrics. When ever you see this fabric you can be pretty sure it is Level 4 or 5 of ASTM 1790 which is comparable to ISO 13997.

The Kevlar with steel is yellow in color and the stainless threads are readily visible. It is about a Level 3.5 to 4 and produced by Cut Pro NATURAL http://www.norfab.com/product/40/cutpro-natural-09tt344.html

It meets an ANSI spec Level 4 and is comparable to the ISO 13999 spec performance. It is also used in racing suits by security Race Products as it is a little less expensive than the TuffNlite.

The layers of Kevlar cloth are yellow and ideally are of square weave although twill weave could be permitted if the layers/weight of fabric are utilized in the clothing. When layers of Kevlar 29 with various weaves, and weights of say 116 grams per square meter are used, the Level 3 is generally attained (without steel threads).

Most of the cut resistant suits in the US are with one or two layers of the Kevlar, some use the Kevlar steel, and I and others (Fred Hauenstein among others) use suits made with the TuffNLite. We also wear the socks and the gloves in outboard racing.

The US racing equipment manufacturer's make suits using all variations of the above mentioned three types of fabrics. (Security Race Products. Lifeline, and a couple of other small shops).

The top end, TuffNLite type, and Cut Tex-PRO fabrics mentioned in the proposal are the lightest, coolest, most flexible of the three types mentioned. http://tuffnlite.com/sports/powerboat-racing/TuffNLite sells their own clothes, however, Security and Lifeline obtain the fabric and sew it into an outer durable covering. This link for the UK based manufacturer of Cut Tex-PRO also compares to of the cut resistant standards.

So, how do we inspect the clothing? First we know what the three types of fabric look like. Second, the clothing manufacturer has put their label on it and it is easy to check on the internet to see what is used or to what standard the clothing resists cutting. Generally, a driver (potential customer) contacting a manufacturer by phone will get the answer about the material that is in a given suit.