NTT INDYCAR SERIES
News Conference

Friday, May 19, 2023

Indianapolis, Indiana, USA

Steve Holman

Chairman, Louis Schwitzer Award Committee of The Indiana Section of SAE International

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Press Conference

STEVE HOLMAN: ...in the nation with the first U.S. 100 percent renewable racing fuel and engineering excellence, the perfect drop-in performance, are due to the efforts of the winning engineers of the 2023 Louis Schwitzer Award, Selda Gunsel, Bassem Kheireddin, and Jung Fang. Bassem?

BASSEM KHEIREDDIN: Thank you, Steven, and thank you, Dave. Thank you all for being here. It's truly a great honor to be here and accept the Louis Schwitzer Award on behalf of Shell today.

As an engineer myself, this award means a lot to me because it recognizes innovation, excellence, and pushing boundaries in automotive engineering, and that's what racing is all about.

I'm deeply grateful for Steven, the selection committee for bestowing this great honor on our Shell team for the 100 percent renewable race fuel.

I'd also like to thank SAE International, the Indiana section, BorgWarner for recognizing and fostering this period of innovation, and their commitment to improving and building on automotive engineering and advancing technology and breakthroughs.

Obviously this work doesn't happen without the effort of many, so I'd also like to thank my Shell colleagues and teammates. You've mentioned a couple, but there's many more. I see Heidi also here, David Lerch in the stands. Thank you all for your efforts. This award is truly a reflection of their dedication and collective efforts.

We've spent countless hours tackling the challenges on this journey. I won't go into the details, but as Steven said, the greatest testament that I've ever received from this project is the feedback from the racing engineers and the drivers that this was indeed a drop-in solution without any required modification to the engines.

I wish I had more people to thank here, but our 100 percent renewal race fuel is the latest example of how pushing the boundaries on the racetrack can benefit our customers around the world and in the future.

With that said, innovation doesn't happen in isolation. Working alongside motorsports, racing engineers from Ilmor Engineering, Chevy, Honda, INDYCAR, is really one of several avenues that Shell leverages to demonstrate and create broader awareness of what low carbon fuel technologies are about and how we can transfer those learnings into future fuel development.

Once again, thank you to the committee on this tremendous honor from the Shell team.

Q. I'm not a technician, so just to make sure I understand it, you produce the race fuel from recycled material; before that, did you know what kind of recyclable material you have to choose? You cannot use any material. Number two, to make sure this recyclable fuel runs with the INDYCAR engine, are you able to do simulations? And the third question, can you tell something about the octane rate of the fuel? Is it higher or lower than ordinary race fuel?

BASSEM KHEIREDDIN: Thank you for the question. I'll start with the first one. We knew it had to be a fuel that fits the E85 specification. E85 in an INDYCAR engine means that it's close to between 80 and 85 percent of ethanol.

Now, where this fuel is different from the previous fuel is that the majority of -- well, the ethanol part comes from sugar cane waste, so what used to be considered as a waste stream from the sugar cane ethanol process is now used to produce the ethanol that is used in this fuel.

Now of course the remaining portion we have to rely on decades of R&D knowledge within Shell, so not only did we use models, but we also tested different blends, the

properties of different blends to ensure that the properties of the final formulation will meet the demanding needs of the INDYCAR engine.

I won't comment on the specific -- the second part of your question is on the octane number. I won't share the exact number, but it's close to 100. That's what I can share about it.

But the main takeaway is that there was no loss in performance when switching from the previous fuel to this fuel.

Q. (No microphone.)

BASSEM KHEIREDDIN: Than your regular race fuel? It's close to 100, so it would be higher, yes.

Q. Steve, have you ever handed out an award to so many Ph.D.s like this?

STEVE HOLMAN: No, it's almost kind of difficult to say anything up here when I've got so much expertise in engineering next to me. I'm pretty sure back when we gave the award to AJ Foyt he didn't have his Ph.D.

Q. Just to wrap it up, the importance of track to road, and Bassem talked a little bit about that as far as the committee goes, obviously that's a huge component, as well, in what you guys consider.

STEVE HOLMAN: We feel this award is so important because there's a lot of people that would like to just flip the switch and maybe within 10 years we'll all be moving everything with electrons powered by the sun, but it's just not going to be that easy because liquid fuels have tremendous advantage in what's called energy density.

There are just certain applications you can't, with any current electrical battery technology, meet. The race cars, we had a great example from one of our engine engineers. He had a similar question, so he said, I went back to my calculator and made a couple calculations, and he said to run the Indy 500 for one car, 500 miles, would take 80,000 pounds of lithium ion batteries, and there's similar applications.

Airplanes, there's a lot of work going on in what's called SAF, sustainable aviation fuel. Liquid fuels have their place for quite some time.

There's a possibility that sometime in the future people are going to look back at this and say, hey, that's another rear-view mirror. It's that kind of advancement that we need to have to get our total mobility solutions available to humans in the future.

BASSEM KHEIREDDIN: What I would add to that is the demanding needs of an INDYCAR engine are different than those of a road car. But the key thing for motorsports is it's a platform so that the technology that we use in that fuel, for example, can be transferred to a road fuel. So we're not entirely there yet, but I can guarantee you that it will come.

THE MODERATOR: Congratulations to our friends at Shell. Another great award for the Louis Schwitzer Award.

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