

June 10, 2008 Ward Atkinson Opening greeting

Good morning welcome to the 2008 Alternate Refrigerant Systems Symposium

After another year of alternate refrigerant confusion we are again attempting to answer the question, what alternate refrigerant will be in production in the future and will there be one global refrigerant?

As we are well aware today we have more questions than answers as we attempt to determine if there is a new global refrigerant for the mobile A/C industry.

Establishing guidelines for any global refrigerant, we must consider many factors including but not limited to, its safety, system durability, cooling performance and above all the A/C system must meet environmental needs and be cost effective for the consumer.

When considering a new global refrigerant we must be sure to understand the total environmental issue. Just because a refrigerant has a low GWP rating the real issue is, what is its LCCP value? Does it provide efficient cooling operation and what are the direct and indirect emissions over the lifetime of the vehicle?

It has been stated in prior ARSS sessions that any replacement refrigerant must provide the same reliability that the consumer has become accustomed to with their HFC134a system. At this point in time do we really have any data with regards to the system reliability of any of the alternatives? Will the replacement refrigerant provide 5 to 7 years of trouble free A/C system operation?

Let us not forget that when the industry changed from CFC-12 to HFC-134a, enterprising companies to service the CFC-12 systems, sold many replacement refrigerants in the marketplace, including hydrocarbons. This resulted in mass confusion in the service sector including contaminated and damaged mobile A/C systems and service equipment.

Over the long haul, since the price of HFC-134a did not become extremely high, the other blend refrigerants being sold dropped by the wayside. However, low cost hydrocarbon refrigerants are still promoted globally, for use in both CFC-12 and HFC-134a systems. This occurs in the US marketplace, in spite of the fact that it's illegal to use them under many regulatory statutes.

The use of lower cost refrigerants may well become an issue with refrigerants under consideration by this industry. In the case of R744 the OEM requirements for an odorant may be replaced with lower cost beverage grade carbon dioxide for out of warranty servicing and hydrocarbons may be used to replace high cost replacements in low-pressure systems.

Considering what replacement refrigerants might be available and sold in the aftermarket the goal of the industry for reliable and safe systems can be at risk.

The industry has done a great job in developing new SAE Standards and the GREEN-MAC-LCCP to help address the merits of new refrigerants. It provides a level playing field with the ability to have ongoing changes with reputable information. However, other life cycle scenarios are being proposed only causing confusion. On this issue I strongly recommend

that those directly involved in this industry and those that are not vehicle or A/C system manufacturers provide information to this activity so that we have only one factual voice on the mobile A/C systems' environmental impact.

Within the last year the SAE 1234 CRP has been actively engaged in the evaluation of HFO1234yf as a potential refrigerant to globally replace HFC-134a. You will see presentations this week on some of the coordinated activities. Unfortunately this CRP activity has not had participation from all sectors of the industry that will have to make a final decision.

The US EPA has actively moved to have common legal requirements for states in the U.S. that may currently exclude the use of a certain alternate refrigerants to replace HFC-134a with CO₂, HFC-152a, and other low-GWP refrigerants for vehicles sold in the United States.

With the recent worldwide increased cost for fuel, consumers are becoming more aware of fuel consumed by the vehicle and accessory systems. They want AC systems that provide adequate cooling performance and are concerned about the cost and amount of fuel needed to operate the A/C system. Again this year the news media ask the same questions what price do we pay for running the A/C system in place of no A/C operation and windows open.

Over the last decade I have met many people that have worked hard to achieve the goal of establishing a new global refrigerant. I must say the chaos that has prevailed over this period is showing major signs of stress on these people. This is the result of a legislated directive requiring a questionable refrigerant change. This industry has not had sufficient time for development of new technologies that will provide a reliable A/C system benefiting a global environment and consumers.

To add to the confusion there have been independent groups that have promoted their solutions to meet the EU regulation regardless of the technical merit. They include Universities, Testing Facilities, Component Suppliers and Independent R&D groups. Most of these groups have never produced a production mobile A/C system. In the end, Mobile A/C systems are the responsibility of each vehicle OEM.

It is therefore; extremely important that this industry have a unified activity so it can be determined if in reality a new global replacement refrigerant can be identified.

Regulators will be coming together on Friday and many of you will participate in this 2008 MAC Summit. The technical discussions in the coming days should help guide the regulators to the right decisions.

It is hoped that this meeting will provide information that with your networking we can strengthen this industry toward an improved "one voice" direction for an environmentally acceptable A/C system using a global refrigerant.

I wish you all the best for a successful series of activities this week.