

[Technical difficulties and audience couldn't see Larry Hults' screen]

[Larry Hults' I-CAR presentation resumes]

[1:13]

**Larry Hults (I-CAR):** So we're talking about waterborne materials and since it's waterborne we're using latex in this material to be a binder. And so the core latex particles don't cure like the solvent paints, with a chemical curing. But when they dry these little latex particles actually bind together and that's what gives us the durable finish. Most of the paints we use are either thermoplastic or thermoset. We can re-float them with a resin, a solvent or we can heat them or cool them and change their viscosity on the surface. But with waterborne technology there thermoplastic while in the water stage but as soon as the water evaporates, they are thermoset and the only thing you can do is to sand them. So they're a little different than some of the solvent stuff because you can't use a solvent to reinvigorate the paint.

[2:20]

So, right now we have primer surfacers, primer sealers, basecoats, and waterborne clearcoats available in waterborne. No solvents to speak of in these products. Now the basecoats that we're basically talking about today and the clearcoats that we are using in the US today are still the solvent borne clearcoats that we're used to. But they are clearcoats that are compatible with particular product of paint that you are using and the only clearcoats available on the cars today are to the OEMs that are being imported into the US. I don't know when the clearcoats in waterborne will be available to us in the US, but they're not available to us right now. They are being shot in Europe on OE cars so we know the product is available and that it works but just isn't available here. Again I just want to restate that the same protection you're using against the isocyanates and the solvents you are using today – we need to still use those same protection devices when you're shooting waterborne. So supplied air respirators, eye protection, surface skin protection is still required when you're using waterborne paint. We don't want to lose sight of that safety issue for our technicians.

[3:44]

The point of this conversation is the product itself. But there are some benefits of waterborne. One of them is that you **reduce the VOCs that you are emitting in the painting process**. The second one is that - which is a production issue – is that these **waterborne paints may flash over faster, than what you're used to with the solvent-borne paints, so it does increase the speed of our production**. And then **if you're shooting metallic paints, we seem to have better metallic control** when we're using waterborne paints because the metallic materials in the paint, lay flatter and are more controllable for flip and flop and give us more control over the end product. It cures, it dries at a more even pace and the metallics seem to lay down flatter and easier with this type of paint. So that's one place where the painter themselves find a benefit.

[4:47]

So when you're preparing the surface for painting you've got to be sure the surface has no defects in it because these metallic paints will lay down and any defect on the surface can change the light reflection so you wind up being able to see flaws in the paint because of the inconsistency of the way the metallics lay. **So the preparation of the surface becomes very important.**

[5:12]

Let's talk a little bit about some other benefits. One of the **benefits to the shop owner**. One of the benefits to the shop owner is that this heated up paint booth at 140 – 180 degrees that we've been using and heating up over the years, now needs to be heated up all the way to about 68 – 78 degrees Fahrenheit. - basically room temperature. So if you just open up the door and let the heat in, that's about what you're going to be painting in. **So we don't have that extreme heat coming out of the booth in the future, if you're using waterborne paint because it's an "air dry" and not a "heat dry" type of paint.**

[5:49]

With waterborne materials - when you start looking at capitol equipment – one of the things that every shop owner is going to have to look at is their compressed air delivery system. We're going to be using compressed air to deliver the paint; we'll be using compressed air for all of our tools in the shop; and now we're going to be **using the compressed air system to help dry the paint. So that extra load is going to have to be considered in so some of the systems we have today might be right at their max and you might have to change out some of that capital equipment.** You may want to have someone come in and just **do a leak check. It's been proven that about 30% of the compressed air we create is lost due to leaks in the system. So you might be able to simply plug up the leaks and not have to change equipment**

[6:37]

Some of the other things we have to consider is that this is water carrier paint and so everything we had to protect ourselves against before was from a solvent; but now we have to protect ourselves against water. And so the tack clothes that we use, like the beeswax tack clothes. **If they're not compatible with water than you may have to change the product or brand name of the tack clothes that you use. And the mixing sticks you use to mix the paint should be plastic or metallic.** The wooden sticks have a tendency, in water, for the grain of the wood to open up in the paint and release resins in the paint, which can cause some paint failures on the surface 6 months to a year on the pipe. So we don't want any comebacks and we need to shift over to plastic and metal mixing sticks.

[7:31]

Other consumables we have to deal with are paint strainers. **The paint strainers are generally a fine mesh that's been glued to a piece of paper. Well the paper itself now has to be water-proof** so it doesn't just become soluble in the water and become a limp rag. And the filters themselves, where they're glued on, may be water soluble glue so we may have to change the brand or type of filters or strainers that we use. The paint manufacturers of waterborne paint tell us that we **need to use filter screens of about 125 -200 microns.** That's a little bit bigger screen than

we're used to. So we'll **at least have to change the size of the strainers that we've been used to.**

[8:15]

The built-in strainers in our paint guns, the disposable cups and lids and that type of thing all should be about the same. If they're made out of plastics or aluminum you should be alright, or stainless steel. But the filters in those cups need to be considered for their micron size. When we're talking about consumables, masking tape and the masking paper we use – remember it's going to get wet. So if it gets wet and soaks up the paint, it will spread the color over the adjacent areas of the painted car. So **you need to make sure you're using paper and masking tape that is not water absorbent so that it actually does protect the surface.** And if you are in a shop that uses spray-on masking, that's one of the problems that you're going to have with waterborne paint because spray-on masking dissolves in water. So **we may not be able to use spray on masking – at least not in the area adjacent to the area we are painting with the waterborne paints.**

[9:26]

**So quality products, quality name brand products, or products recommended by the manufacturer of the paint will be what you're looking for, for your consumables.** There aren't a lot of consumables that will be a problem, **and the cost of them is about the same as it is for the solvent-borne materials.** But it is something that you will have to consider when you're changing over. So **if you have a large inventory you may want to do a return, or reduce your inventory before you shift it over** – something like that.

[9:57]

**Mixing the paint is not as difficult as it used to be.** Just a simple shake or a stir – sounds like a James Bond movie – but the idea is that you can just shake the can or gently rock it back and forth, or stir it and you get a full, clean mix of the materials inside the can. **Additives** that we put with the paint, need to be mixed in the proper order. But we're used to doing that because we had to do a proper order combination when we're putting together solvent-borne paints as well. It's just a **slightly different mixing order.**

[10:35]

So solvent borne paints come in two basic types: pre-mixed (with the water already in it), or NOT pre-mixed (where you just have the pigments). So if it's not pre-mixed - if it doesn't have the water in it - then it's freeze resistant.; it won't freeze. Water freezes at 32 degrees or lower. So if the product gets to be at 32 degrees or lower it gets ice crystals in it and the product itself can be immediately ruined. So **some of these waterborne paints can not be frozen, or you lose the paint. Other brand names of paint you buy can be frozen as many as 13 times and not lose the ability to shoot the paint.** So whether you buy it pre-mixed or not pre-mixed, will help you if you have a problem with the storage. Like if you were in Fairbanks, Alaska and you lost your power and heat in your shop for the night, then you could lose your inventory of paint and that could be a large expensive loss. So you may want to buy not pre-mixed and just mix the water with your paint when you're ready to shoot it. So it's just something to look at in the two different types of products.

[11:48]

So I said that temperature could be an issue with the waterborne paint. The optimum curing or drying temperature is 68-75 degrees. But if you're in a warm climate, like Phoenix, Arizona at 118 degrees, you may need different kinds of reducers, or more reducers to go into the paint before you shoot it so that it doesn't skin over so fast and gives you more working time. **The higher the temperature decreases the flash time and the lower temperature increases the flash time. And flash time is important, as you know because the faster it flashes the less contaminants you get into the surface of the paint while you're painting and the less contaminants in the paint, the less sanding and polishing you need to do at the end.**

[12:38]

Humidity is the other consideration. Water is the carrier so anything that has water is going to be a problem for you when you're dealing with this paint. The optimum for spraying is about 30-60 percent humidity. Too much or too little effects the drying time. And your compressor, that compressed air coming out of your compressor hoses, needs to be checked for humidity because you may be putting a lot of moisture through the compressor into the paint. So you have to control that humidity coming through the lines into your spray gun. So that's one of the other places to check humidity.

[INTERRUPTION TO DEAL WITH TECHNICAL DIFFICULTIES]

**Ken Grimm (PPRC):** Larry

**Larry Hults (I-CAR):** Yes

**Ken Grimm (PPRC):** Looks like we're still on the waterborne vs. solventborne slide. Have you changed slides?

**Larry Hults (I-CAR):** Yes I have.

**Ken Grimm (PPRC):** Hmm, let me try changing it again and putting it back again to see if that unfreezes the system. Sorry about this, I have not run into this before

**Larry Hults (I-CAR):** Neither have I

**Ken Grimm (PPRC):** So it looks like you are back. So whatever you did before to get the screen to come up, do that again.

**Larry Hults (I-CAR):** There we go. You should have a picture of a spray gun nozzle.

**Ken Grimm (PPRC):** Yep, spray gun parts, yes sir.

**Larry Hults (I-CAR):** Well all I did was move the webinar off the screen and clicked next. Haha.

[14:29 RESUME PRESENTATION]

→**SPRAY GUN PARTS SLIDE**

**Larry Hults (I-CAR):** Alright spray gun parts. The spray gun that you use is going to need some maintenance or some conversion or maybe even be replaced. Most of the good quality spray gun that our technicians are using are going to be useful with the waterborne – not a problem. We need to maybe change the fluid tip from a 1.2 to a 1.5 millimeter, which is a little bit larger of a surface. Based on the temperature you might end up changing that size but you'll be working with your paint supplier and they'll have a specifications sheet for you for that. **The air cap and the other**

**coatings or anything that touches the paint has to be coated so that it won't rust.** We're using water not solvent.

→[15:29] **CLEANING THE SPRAY GUN SLIDE**

So one of the things that you're going to have to do if you want to convert to waterborne is to make sure your gun is absolutely clean of all the solvent-borne sludge in all the little areas inside the gun. **So clean your gun thoroughly before you convert to waterborne.** And then like any regular operation with your paint gun, you're going to have to **make sure it's clean after every use using the paint manufacturers recommended solutions.** Each waterborne material, each waterborne manufacturer has a full range of materials for you to use and you need to stay within that product line

→[16:10] **SPRAY GUN WASHERS SLIDE**

Spray gun washers. Same thing; same problem, they are going to have water instead of solvent in them so they have to be rust-proof. Some of them will be designed specifically for waterborne materials. Others are designed to handle both waterborne and solvents. But you'll have to look at the equipment that's available in your market and what your paint manufacturer recommends to make sure that you've got a paint gun washer that does the job correctly for you. **One of the things you don't want to do is mix the waterborne residuals with your solvent-borne materials. When you mix the two of them together you wind up with a corrosive material that your hazardous material company may or may not be able to take.** Or if they do take it, it may cost you a lot more. So you need to keep your solvent-borne materials in the same process that you have for getting rid of hazardous materials and **the waterborne needs to be kept separate** and we'll get into that in a little more detail here in a minute.

→ [17:21] **FLOCCULATING POWER SLIDE**

One of the things you'll need to be aware of is that waterborne filtrate, the fluid that you're using to clean your guns. That filtrate can have flocculating powder added to it. It's kind of like kitty litter for your filtrate. It clumps together and picks up all the sludge in the material and settles it out at the bottom and **cleans the filtrate so you can use it more times than you would normally be able to use the filtrate in a solvent-borne gun washer. So this extends the life of your filtrate and gives you a dry sludge at the end that is less hazardous and easier to dispose of.**

→ [18:04] **DISPOSING OF SPRAY GUN WATER FILTRATE SLIDE**

So disposing of this gun wash filtrate after it has gone through the process, it's toxicity may depend on whether you have the flocculating agent added or not. But if it's been treated it will reduce the amount of waterborne waste, so anything that's smaller is good.

→ [18:56] **DISPOSAL OF PAINT SLUDGE SLIDE**

The wastes that you collect as a result of this process are what are called "controlled wastes" and they're not hazardous wastes and the process of getting rid of those wastes is extremely different than you're used to with solvent-borne materials and you'll need to check your local regulations for disposing of this. But there are some market places where this disposal sludge is allowed to be thrown away just like you would throw away dirt. So **you need to double-check to make sure what your**

**rules are locally but this could make a very large reduction in your cost of hazardous material disposal.**

→ [19:04] **WATERBORNE PRIMERS SLIDE**

The primers that are available – I mentioned them earlier - but we have primer surfacers, primer sealers. These are available and have been in use for the last 20 years or so in California and for the last 5 or 6 years up here in the Seattle markets, where I live and work. But **these primers are what you want to put under your waterborne paint. The acid etch or etching primers that we're used to with the solvent-borne is not to be used under waterborne paint.**

→ [19:40] **WATERBORNE PRIMERS (Cont'd) SLIDE**

So the primers can go over bare steel or can be used as a barrier coat just like with the sealer coats that we use for solvents; no etching primers and these primers can also be tintable just like the primers that you're used to.

→ [19:56] **SPRAY GUN DISTANCE AND OVERLAP SLIDE**

Let's talk a little bit about application. Once we get the gun ready to go, and the booth ready, and the technician ready to shoot the paint, we shoot it at about 6-8 inches, which is very similar to what we do for solvent-borne. **The difference is that we have about a 75-80 percent overlap for the basecoat compared to about a 50 percent overlap for solvent-borne paints.** So it's not a big difference, but it is enough to make a little bit of a difference to the technician when they're applying the paint

→ [20:20] **CONTROL COAT FOR METALLICS SLIDE**

Metallics. **If you're shooting a metallic color then you have about 85-90 percent overlap and a reduced inlet air pressure.** So you're putting down a little more material to make sure the metallics flow properly. **Your distance to the work is going to be about 10-12 inches.** And when you're done shooting this stuff it looks kinda like...it's got some impurities in it, it looks opaque, the surface looks bumpy; almost like you have a **thin coat of cottage cheese under the paint. But as it dries and those little latex particles settle, it becomes a flat mirror sheen finish.** But the first time you shoot this stuff it's a little scary for the painter. But once they get used to it, after about 2-3 paint jobs, they'll get used to the way it dries and there will be no real problems with it. But it's a little bit scary because of the way it looks before it dries.

→ [21:19] **SANDING BASECOAT SLIDE**

Any problems you have until the paint is dry, you can wash it off with water. Once it's dry though, you're down to sandpaper to be able to get through it.

→ [21:35] **DRYING VS. CURING SLIDE**

So remember I've been saying "drying" rather than "curing". With solvent based materials, we "cure" the material because we have a chemical reaction going on that links everything together. With the "drying" of the waterborne, the latex particles are floating in the carrier and as the water evaporates they start to react with each other and when you get all done drying the water out of it, the latex particles are locked together along with the color particles and makes a nice solid barrier, classy finish.

→ [22:06] **WATERBORNE BASECOAT DRYING SLIDE**

So how do we dry this stuff? Well, if we're not going to dry it with heat, then how are we going to get it dry? We can just let it sit out in the air and it will get dry. And it will take a period of time to get dry depending on the humidity and the amount of air flow. But if you want to keep it clean while you're drying it and have some control over it, then we have some tools to do that.

→ [22:40] **TYPES OF AIR FLOW SLIDE**

We need to be able to move a large amount of air and the air that we move needs to be a turbulent air flow rather than a laminar air flow. Laminar air flow we get out of our downdraft booths today comes out of the ceiling and goes out through the floor – it's a nice even sheet of evenly spaced air current coming down across the car. That creates a little bit of a vacuum barrier against the surface and it doesn't allow us to pick the particles of moisture off the surface and carry them away. So we need to create some type of turbulence in the air comes across the panel in different directions and erratically so it picks up the moisture and pills it away from the surface of the car.

→ [23:14] **AIR MOVEMENT REQUIREMENTS SLIDE**

So we're going to **need 120 – 400 feet per minute of laminar air but we need 200 – 600 feet per minute of turbulent air.** So there's a **big difference in how much air flow we're going to be using.**

→ [23:30] **AIRFLOW SLIDE**

So here's one of the tools . This is the least expensive way to accelerate the air. These hand tools are good for spot painting. They help us to cure small jobs.

→ [23:46] **TYPES OF AIR MOVEMENT EQUIPMENT SLIDE**

These are called multipliers. On the backside where the air comes in, there's a screen for particulates. And there's a venturi in the body of the hand-held unit that multiplies the air coming through and forces it through the front cone and produces a nice air flow; like a hair dryer, for example. So we have these as a hand operator unit, or we can actually mount air multipliers in the corner of the booth if we want to do it that way. Anything that's mounted into the booth is going to be more expensive than something you put on a rack or hold in our hands. **This venturi effect multiplies the volume and filters out the debris and generally is the least expensive option.**

→ [24:38] **HANDHELD AIR MULTIPLIERS SLIDE**

But generally if you're in the market for a paint booth and you're thinking about switching to waterborne, this is a good time to do that because **the booth that you buy could be set up for waterborne at the factory, rather than have to convert it and that saves a lot of expense.**

→ [24:50] **CEILING FANS SLIDE**

One of the things you can do in a paint booth is put in ceiling fans. While you're painting the car, the ceiling fans are off because you're painting the car in a consistent laminar air flow. And then when you're done with it you make the turbulence by turning the air fans on.

→ [25:15] **CEILING FAN CONSIDERATIONS SLIDE**

So that's one of the conversions you can do

→ [25:20] **WALL-MOUNT AIR MULTIPLIERS RETROFIT SLIDE**

These wall mount units are built in and either use ambient air or compressed air to drive the turbulent air through the booth.

→ [25:29] **IR (INFRARED) LAMP CONSIDERATIONS SLIDE**

IR is one of the ways that we have cured paint in the past. Infrared is not dead with waterborne materials. But the product that you buy may require that if you use the infrared lamps to cure the clear coat, then you have to use the IR lamps to cure or dry the basecoat. **So you have to know what your paint manufacturer says about infrared lamps before you start using the lamps like you normally would for solvent based materials.**

→ [26:03] **CLEARCOATS SLIDE**

I mentioned the clearcoats. They may be specific to the paint line you're using and they will be recommended by your paint manufacturer. **Many of these clearcoats are still a solvent-based material.** And so you're still going to have solvents being sprayed in your shop. They don't use clearcoats with solvent in them in Europe and Canada now because they are converted over to waterborne exclusively in those two areas of the world. But in the US we haven't converted over yet. So when we have converted over to the clear coats, then we will have converted to the most efficient VOC materials that we have available in the market. We're not quite there yet.

→ [26:52] **STORAGE SLIDE**

Storing the waterborne paint. We already talked about it freezing, so it should be stored at about 68 degrees. Anything in excess of about 122 degrees Fahrenheit - you need to try to avoid that. Because when you get to about 140 degrees Fahrenheit, most of the waterborne products are damaged to a point where they can no longer be used after it reaches that temperature. **So being too hot is not good and being too cold is not good either. So room temp is the rule of thumb.**

→ [27:22] **FREEZING CONSIDERATIONS SLIDE**

These are little freeze measuring devices. They can be stored with your paint supply and if they look like the one on the left it hasn't frozen. If it looks like the one on the right it has. It's just a way to verify whether your product has reached a freezing temperature while it's been stored.

→ [27:43] **MIXING BANK SLIDE**

The mixing bank is going to be changed out from your solvent-borne to your waterborne. **If your waterborne material has stir paddles, then it will have that in only if the toners are NOT pre-mixed with the water.** It will only stir for a few minutes per hour - it doesn't go on all day long. And **then the pre-mixed products are just a library of cans of pigment and they just need a simple shake. You just take the can off the rack, give it a simple shake and it's ready to be used.**

So depending on which type of material you buy, which paint type you buy, your mixing bank will look like it has paddles on it or just a row of cans.

→ [28:27] **SHELF LIFE SLIDE**

The shelf life in the can varies by paint maker. One year is pretty common and some are virtually unlimited for how long they can be stored. Depends on what line you buy, will have it's own range. But most of them are good for at least a year and many of them are pretty much unlimited. Once the material has been reduced, once you pour it out of the can and start reducing it, then that reduced material has a very

short shelf life. Some say just moments or measured in minutes, and others are measured in days. But it really has a short shelf life and you can't really store that stuff very long at all.

→ [29:14] **MAKERS OF WATERBORNE MATERIAL SLIDE**

Akzo Nobel is one of the manufacturers who provide waterborne paint in the US today. BASF, DuPont is also providing it, PPG, Sherman Williams (We have a number of those shops that have converted to PPG and Sherman Williams in this market), and Standox. Those are the brand names we have available in the US today for waterborne products. This is 4 hours of class stuffed down into about 30 minutes. That ends my portion of the presentation today. And I'll be here available for questions until we're done. Thanks you very much.

[29:50]

**Ken Grimm (PPRC):** Thank you Larry and thank you everyone for your patience and we tried to get this thing working right. As I mentioned I'll be available for questions at the end of this I have a couple of them already. Please feel free to submit your questions at anytime. I'm going to switch over now to several of the shops that are actually using this material. The first one up is Kevin Stalder who is the owner of Driven Auto Body in Anchorage, Alaska. I actually had the privilege of going up to Kevin's shop and taking a tour of that about a year or half so ago. He's been using waterborne for about a year and a half. He's pretty much tried all of them. So he is fairly familiar with the different types of different manufactures paint. He's also a Greenstar certified business in Alaska and a member the board of directors of Greenstar. So he is someone who's got an awful lot of work on the environmental issues and business if you're ready Kevin please take away.

[31:03]

**Kevin Stalder (Driven Autobody):** Thank you. Yes the change to waterborne is mandated in some states in the lower 48 which is what we refer to as the United States. In Alaska there's currently no legislation that is pushing us to be a green shop or to change to waterborne paint. The reason why I change to waterborne paint was based on ease of use, trying to do the right thing and make a difference without having it legislated up on me. Let's see if I can get my slide show started here. We started about 2 years ago here in Alaska and merged from one shop and currently we have 3 shops.

[31:58]

**Ken Grimm (PPRC):** I just changed it to you Kevin. I had your slide up with your shop up but I was'nt aware that you were ready. I think you're set to go.

**Kevin Stalder (Driven Autobody):**

→ [32:12] **RECYCLING PROGRAMS SLIDE**

The first thing that I looked at when we were trying to switch to waterborne is being basically a green body shop. The reason why I was considering this, we know the prices of all of our products continue to rise. A business needs to look at ways to control their expenses if they want to remain competitive. My waste that I was throwing away was made up 40% of cardboard and 40% sheet metal. I began to recycle my cardboard and sheet metal and I watched my costs for trash disposal go

down. At which point I started to look at going 100% green. Currently we recycle all of our batteries, waste oil. I have businesses that will come and pick up any waste oil that we have, to be used in other businesses that heat their buildings with waste oil. And we began to recycle everything that's in the shop.

→[33:19] **ENERGY AND LIGHTING RETROFITS SLIDE**

I then looked at the lighting in my shop. We retrofitted our building with lights and moved to T 5 and T 8 lighting. As a result we've reduced our CO2 emissions by about 17.45 tons. But more importantly, it was about a \$10,000 retro fit in my building. As a result of that retrofit in 8 months I saved \$13,500 in heating and electric bills and was very pleased with the much more true light color in the shops so the technicians could see what they're doing easier and save money. If you have a shop that has high ceilings I recommend putting in ceiling fans to drive that heat down to the floor. It helps you save a tremendous amount of money. And also put in controls on your heating regulators so that's done automatically and at different times you can turn it down when people aren't available. Working inside the building I stuck in glass partitions between the shop and the front which will help me to increase efficiency of heating certain areas. The shop opens garage doors, more often than my detailing area. Which again helps to reduce cost.

→ [34:44] **ENVIRONMENTAL FRIENDLY PRODUCTS AND WASTE PREVENTION SLIDE**

I went to PPG paint, which is what I ended up using. I have demoed every brand that is for sale right now with the different manufacturers. I know that, you know I'm not trying to sell PPG paint. But all I can tell you is that every brand that I have used theirs was the most friendly, as far as use, that we had. So far we've only had 2 comebacks and those weren't for paint related issues. It was actually something in the clear coat that needed to be buffed out. Right now, we are the first shop in the state to implement the waterborne paint and go with the 100% green concept. As a result of that it's done huge things for my business. I was nominated as a result of it and elected to the Greenstar board of directors.

[35:45]

I've been talking to different businesses in Alaska about the advantages of being a green shop or being a business that looks at being green. The emphasis here for me is that it's a way to save money as much as it is a way to do the right thing. The product itself is a little more expensive than the traditional solvent. But what I've gained is efficiency to the point where I can paint more cars quicker. The bake cycle, instead of a 30 minute bake cycle for a car, it's now reduced to 9 minutes which reduces my heating bill considerably. It allows me to get more cars through faster and I know throughput [36:32] is a huge item for the insurance companies. They are really looking through our cycle times. My painter who has been with me for about 22 years was a little apprehensive and making the switch to waterborne. Within a week of the training and going through this product, he would kill me if I changed anything else at this point. As Larry was talking about the changes to waterborne is a little mis-considered. Some shops think it doesn't work. All I can tell you is that the technology we have today versus what with their 10-12 years ago is astronomically different. This product is so simple to use and I'm

just amazed. I'm not a painter but I went to a class and I was painting stuff within a short amount of time. It's when you get into spraying the clear coats that we are in a solvent world still, we do have to understand and be able to use the product in a way that's consistent with the manufacturers' guidelines. The waterborne paint and side winder, we have a side winder for solvent recovery, sandpaper that we're using. Let's say for instance that you get a contaminant on the paint versus a solvent paint system, where you have to wait half hour to be able to go in to correct that in the booth. What you're looking at now it's about 3 minutes and you can dry sand it and reshoot the area, let's say it had a dirt nib on it, and you're off. So the time saving there is huge.

→ [38:30] **ENERGY SAVINGS AND ENVIRONMENTAL IMPACT SLIDE**

We have very little hazardous waste as a result of the waterborne. We still have very little hazardous waste a result of the solvents. I still have business in my shops it cannot be painted with waterborne paints. So you're not 100% in the waterborne world, there's no way to do it all right now. But it's a step in the right direction. What I looked at here with the cost of my changes with the lighting retrofit, what it's saved me. These are my vendors as far as the lights, gas and waste as a result of putting in the waterborne paint. You can see the difference in my gas bill, which is here where it says Enstar. You can see the reduction there. You can see the reduction in my lighting costs as well as waste management. The heating, the products, recycling all has given me the tremendous amount of savings that I wouldn't have otherwise realized. It's good for business and it's good for the environment.

→ [39:50] **AWARDS AND RECOGNITIONS SLIDE**

Everything that we found at this point is showing us that by marketing your business and doing the right thing and saving money, you also get response from different businesses in the community. You get recognition for doing it. I've had 2 new stories come in and talk to me about what it is that I'm doing. We were given a local green star award and Carquest as a result of my business model nominated us for a national excellence award. We came in and the top 10 in the nation. This business has been in existence for 2 and a half years at this point. We've gone from one shop to 3 shops and I'll say half of that is generated from the fact that we're doing things different than rest of the industry. Part of that is the waterborne portion of our products. PPG has been a tremendous asset to my business. When you need them, they are there for assistance and training, they know their product very well and they are there to support you. With that, that finishes my portion of the presentation. I'll be online if you guys need any answers to any questions.

[41:01]

**Ken Grimm (PPRC):** Alright thank you very much Kevin. Looks like we're moving on after Kevin to Jerry Richardson. Jerry is the owner of Advanced Collision Repair in Seaside, Oregon on the coast. Jerry's been using waterborne coating for the better part of a decade. He's been in the industry for 4 decades now and is very familiar with them. He is a last second replacement for a panelist that was not able to join us today. So this was a short notice for Jerry, we thank you for taking over and please go ahead.

[41:45]

**Jerry Richardson (Advanced Collision Repair):** Well thank you Ken. Thanks for having me here. I can say it was short notice, I'm not really prepared but I've been working on waterborne coatings for many years and different aspects. I think a lot of the guys in the industry maybe remember some of the waterborne barrier codes that were offers when we first switched over to acrylics, enamels, hardeners and the need for recoats, that sort of thing. My shop is located in a very isolated area and I think Alaska is very isolated too. I didn't develop our system because of any reason other than that's what I thought was the right thing to do. I didn't realize the rest of the nation was trying to get to this level. But it's been one of the best things that I've done for our business.

[42:50]

I started out, I read an article some years ago that the people in Europe were able to use the same materials that were used at the Rolls Royce factory. They could buy those products and use them in their shops and then jealousy set in and the pursuit began haha. But through this whole process, some great things have come to pass. I really don't know how to say that I'm better with questions but our energy consumption has gone way down. We've done things with the paint products that you could have never done with the solvent products. I find that they're more durable and easier to use. Of course they're healthier, there are number of things. I like the BASF brand but that's just my personal choice.

[43:53]

When the product first came out, there were some discrepancies in the directions from the way that they were applied in Europe as to what we received over here when they were first introduced. There were some major issues in the beginning, where people trying to use the BASF brand early on probably had some awkward results. Through some work of my own we were able to discover that the mixing ratios, or the introduction sequence, of the latex and the pigment and the water had to be in a specific order in order for the system to work properly. Once we discovered that and got that little kink worked out it's been outstanding.

[44:43]

I live in an area where there's a mountain ridge, we live right on the coast and the ocean and there's a mountain range between here and Portland, Oregon. In the winter time, it snowed ice and they graveled up the roads and people drive over the hill to shopping all the time. The front of the cars just get blasted with rocks and even with the best materials that you could buy years ago, you'd still end up with some minor rock chipping. I've noticed that since we've gone to this waterborne some years back that the chipping on the bumpers, the coatings that hang on the bumpers in front of the hoods and the fenders, it just doesn't hardly chip. It takes a tremendous amount of impact to make it chip. Durability is way superior to solvent.

[45:33]

Gee, I don't even know where to start with all this. The actual costs of materials are obviously more expensive. You have some transition and training issues, a learning curve that's involved anytime you switch a product line. But overall the

productivity does increase, so like Kevin said the through put cycle times is faster. So you make up for the extra material just by being able to produce things quicker through your facility. I mean it doesn't really require as much of a capital investment as a lot of the people are saying. If you have a shop where you're using proper materials, the latest equipment, the newest stainless steel paint guns, the HVLP paint guns, you are already doing that anyway. There isn't that much of a transition. It's not as difficult as people make it out to be. Those of us that have gone first had problems but now we figured out what those issues are and sharing that with other shop owners can really eliminate a lot of that transition time.

[46:53]

I have shops that I've been helping out all over the United States, that I've assisted in some of these transitions even just on the telephone. But minor things that they stumble into or problems or questions, once you've been down the path it's a simple answer. But it just annoys you if you have never experienced it before.

[47:18]

We find the products very stable, I've had no comebacks with waterborne issues. We did run into one problem that we're still battling and that is the fact that we've had some pigeons nest in the exhaust vents. Prior to switching over to waterborne they would have never done anything like that haha. So we're having to shoo the birds out of there because the toxicity is so low, it doesn't really affect them. I don't have a whole lot to say directly because they are so many things. I hope that some of the people will ask some questions. I've been at this for quite a while and we're fortunate enough to get started early on it.

[48:06]

I just love the products, my painter I gave him a choice just the other day (as an example to someone who was here asking and inquiring about the products). And I said "OK, watch this." I walked in and went to my painter and said "Hey, we're done with this stuff. We're throwing it out and I want you to pick the brand of paint you want and we're going back. I don't care what it is, you pick it and that's the one we will switch to." He just looked at me with this dumbfounded look on his face. He said "I'm not changing." It seems to be the case with everyone that has been working with waterborne for a while, they don't want to go back to the solvent. I encourage people to look at this, to look forward, to embrace the future and it's probably going to be mandated. But as you go through this, you'll find one of the best things you've ever done. It's going to improve your business, it's going to keep you compliant, the quality of your products is going to superior to the shop down the street cruise not using waterborne. It'll give you a great competitive edge. Consumers like it, insurance companies want to do business with places that are falling the rules and procedures and reducing liability issues. It's just a win-win situation. But anyway, I hope for questions. I don't know what else at this point, I probably would like to turn it over to Ken.

[49:36]

**Ken Grimm (PPRC):** Thank you very much Jerry both for sharing your wealth of experience and for joining us in less than 24 hours notice haha.

**Jerry Richardson (Advanced Collision Repair):** Well I'm not really ready for it but I can fill any questions.

**Ken Grimm (PPRC):** That was good to hear and we'll have some questions coming up. So now we will move on to the last of our shop folks and next is Matt Thornton. He's one of the owners of Parks Royal, a collision repairs shop in Boise, Idaho. Matt's been using BASF paint as well for probably, not quite a year and a half but a year and 3 or 4 months or so. Matt would like to share some of his experiences as well. I'm going to quickly screen over, this is Jerry's homepage and URL at the top, and now I'm clicking over to Matt's. Matt why don't you take it away?

[50:41]

**Matt Thornton (Parks Royal):** Thanks for having me. My presentation isn't like a real elaborate power point but I would like to point out that it's going to echo what the previous gentlemen have said. There are virtually no cons switching over to waterborne. We've had the list of pros is endless in my opinion. We have witnessed increased productivity, not just the general speed in which we are able to repair the cars, color matches because you're replacing materials on the cars with something that's either similar to or in some cases exactly the same product that came on it from the factory. You know a lot of the guys here, since we're in Idaho are avid outdoors people. So we're obviously interested in protecting the environment that was the original driving factor for switching over. The productivity and those things remain to be seen after we used it for a while but now that we've used it for about a year and a half. It's really proven itself in my mind. Like the gentleman mentioned earlier the cost of the actual product, if you look at the invoice cost per can of paint, it's a little bit higher but it also goes further. So you are using less of it, you're making gains of it in productivity, energy savings and also on the marketing side of things. Being able to market ourselves as one of the first shops in the area to switch to this product makes a big difference in terms of our perception in the public eye.

[52:10]

They pay big dividends for us as well. One of the other advantages as well, and I think other shops will run into this too, if this becomes mandated down the road is the willingness of the paint companies to help both in the physical transition of bringing the product in and showing us how to use it, but also the technical information and working through some of the issues with you. That's much more available now than it will be as it comes closer to being mandated. I have a feeling a lot of shops in the industry are gonna wait for the last minute and they're going to have greater expenses and major problems to deal with because the help just won't be there for many of the companies. One of the biggest issues that we ran into, was just equipment investment wise. We have an older building and had to convert over to new air compressors, airlines and everything and some of that was done by choice. Just replacing the old equipment that we had but we also did that in mind for the needs of waterborne. So we've replaced our air compressors, airlines, we replaced one paint booth with all these waterborne changes in mind. I'm sure glad we did it because I think the biggest issue shops are gonna run into is the compressed air quality. The volume, pressure, and humidity of the air. I think for a

long time a lot of shops have been getting by with mediocre equipment now, and are going to have an expense that they're probably not prepared for.

[53:44]

Other than the air compressors, we had to a new paint booth anyways because ours was 20 years old so that was a kind of expense we would have had no matter what. But for a modern shop that has decided to come in prepared, I think they could do it without spending more than just a few thousand dollars to get converted over. If they spend more than that I'd be surprised. There's really not a whole lot to say, it's all good. It's kinda one of those things where I can't think of a negative thing and the same thing Jerry talked about. Our painters would kill me; they really don't wanna switch back to the products at this point. It's been an issue that he's been really open to, it's been working well for us.

[54:36]

**Ken Grimm (PPRC):** Thank you Matt. We're getting some good questions coming in and we'll address those after our last present here and that's going to be Greg Richardson. Greg is the collision repair instructor at Clover Park Technical College and we've invited Greg to wrap things up because they are the only community and technical college or skill center that I'm aware of that exclusively teaches waterborne painting to their students. Greg is also the grand experiment because he's going to be talking to us over his webcam. Can you hear me Greg?

[55:19]

**Greg Richardson (Clover Park Technical College):** Yes I can.

**Ken Grimm (PPRC):** Okay why don't you let me change to your desktop and take it away.

[Technical difficulties, audience couldn't see Greg's webcam]

[56:42]

**Greg Richardson (Clover Park Technical College):** My name is Greg Richardson. I'm an instructor at Clover Park Technical College in Lakewood, Washington and we've been using waterborne basecoats for just a little over a year. I was trying about a year and a half ago on this system and at the college we tried to keep up with all of the current technologies and it's important to us to jump aboard with doing waterborne technology. Some other things I'm going to talk about have already been covered and some other things are important. We find in training our students and a lot of you'll be coming aboard new and there will be a little bit of a training curve. But the main thing is that we get able to have our facility ready. You need to have this spray booth set up, you need to be able to have clean and dry air in the spray booth, and you need to have a cleaned spray booth because you are introducing a lot more turbulence of air. Without a clean spray environment, you're going to be dealing with a lot of dirt and stuff in the paint so it's important that we do have a clean environment with dry air.

[58:09]

Some of the air movement and that they talked about currently, I just had the ceiling fans installed in my booth. It's only been the last couple days since they finished those. I haven't been able to get a real grasp on how well they work but we've used

error amplifiers and the type that that are handhelds or on a rack that will hold them. We can position around the car for small areas we found what works really well, is we have just this little mini jet which isn't very big in size but it works well for drying small areas if you're just doing small spot repairs and such. But the product does dry faster than solvents if applied properly. Which helps me with training students, we get students who over-apply, we get some runs. In a situation like that it's better just to wash it off while it's still wet versus trying to let it dry and sanding it out. Dry sanding it pretty much the only way you'll be able to sand it out, so if it's still wet wash it off.

[59:25]

Another thing that we found that is really important is to have the vehicle clean. If the vehicle is not properly cleaned your base is not going to lay down properly and you're going to have a scaly look when the product dries. That's something after a couple times my students learn how to properly clean the surface and then we don't have any problems with contamination and such. Sanding the surface and preparing the surface, you have to be a little bit more precise. Where you may have gotten away with 6 or 800 grit papers in the past, you may have to go to 800-2000 in order to properly sand and avoid the sand scratch. Because the paint film lays down and if it falls into the void of any sand scratches on metallic colors it'll be shown at that point in time.

[1:00:27]

The nice part about the solventborne for throwing out blends and blended panels is actually much easier than working with solventborne with the waterborne products, they will stay wetter longer and you won't get that halo edge around the sides. Like the circles around the edges. I actually find it easier to train my students with blending panels using waterborne than I ever have with solventborne technology. Some other things I think are important is that the colors when you were spraying out your spray panels, they're more opaque looking. When you're looking at the toners in the web form they don't appear like they are when they dry. As they dry, they go through an array of colors depending on what toners are in your paint when you are spraying. It will go from blue to purple to yellow to green. The first couple times when you spray you don't know what color you're going to end up with until it's dry. So I've found it's important to get a swatch. This is an example of a swatch we use. This has the color of the toner when it's dry so as we are trying to adjust color for color, matching and such we can actually see what the toner looks like in its dry form. This helps us out a lot in terms of color tinting. Another thing that I found has really been effective is we have proper color documentation for variant deck and if we choose the proper variant for the color, there are less choices we have to make as far as tinting in application.

[1:02:40]

So those are things that help us when we don't have to use as much product and trying to get colors to match properly. Kind of the same principles as with solventborne technology. To me waterborne is a lot easier to train with and a lot easier to teach my students how to spray. We've had very good success. We've not had any comebacks due to anything with the waterborne. Maybe there's been an

area that hasn't been polished properly, but as far as our color matches and blends and everything that we've had for our system, it's worked out really well. One other thing, when doing spray outs we usually use the old paper type of spray out cards. With our waterborne we found that we use the metal one and that works a lot better because it doesn't wrinkle. If you have to go over the paper with one spray, I don't know if you got a true color but the panel and the latex dries kind of wrinkled up so we had to go to a metal spray out card. But other than that as long as you have the proper spray gun, clean spray environment, clean dry air, proper air movement in your booth you'd be surprised how much of a quicker process it is then the old solventborne. That's all pretty much what I have but I will be around to answer questions and I thank you.

[End of panelist presentations]

[1:04:28]

**Ken Grimm (PPRC):** Alright thank you Greg. So that actually concludes the panelist portion of the presentation. But I think I'm going to unmute all of them and we'll go ahead and start answering some of the questions that have been coming through. I'll just go down the in order as they've come in here.

[Questions and Answer portion]

[1:05:02]

**Ken Grimm (PPRC):**

Q: The first one is from Gretchen and she asked if you can explain why higher temperatures reduce the drying time. That looks like a general question for anybody. I don't know if you wanna take that Larry.

**Larry Hults (I-CAR):**

A: Well as the temperature increases it allows the water molecules to break down and evaporate off the surface faster. So it just reduces the drying time on the paint. If it's too cold of course the water will crystallize on the surface. So hotter temperatures have a tendency to evaporate and lower temperatures have a tendency to crystallize the water. So it's the condition of the water on the surface that makes a difference.

[1:05:52]

**Ken Grimm (PPRC):** Thank you. The next one is actually a comment but I'm gonna go ahead and give him his mini plug. It's from Ronald Andrews of Matrix System Automotive Finishes. I don't think he saw his name on the list and just wanted ever want to know that Matrix Manufacturers in the US sells waterborne basecoats as well.

Q: So now that he has his shameless plug, Tina Greg has asked and this is for Kevin, what does Driven Auto Body do with damaged plastic or fiberglass bumpers? Is there a way to recycled those?

**Kevin Stalder (Driven Autobody):**

A: Currently in Alaska the only type of plastics we're able to recycle is number one and number two. What I have been doing it's any bumper cover that is

damaged for an insurance purpose where they have to replace it, or something else maybe a useful item, we've been storing and refinishing it and selling types of bumper covers for the public if they want that. If they are so damaged that you're not able to repair them, the tabs are broken off or what not, we have to cut them up and we do have to dispose of those.

1:07:10

**Ken Grimm (PPRC):** Alright thank you. The next question is from Caroline Whittaker and this is for Larry.

Q: She asked do they make isocyanate-free clear coats that can be used with waterborne primer and basecoats.

**Larry Hults (I-CAR):**

A: No, the clear coats that the manufacturers are using in Europe still have a little bit of solvent in them so we're still not completely away from the solvent being in the material. But it is significantly reduced, we lose about 60% of the solvents in the clear coats. We lost about 90% of the solvents in the base coats.

[1:07:51]

**Jerry Richardson (Advanced Collision Repair):** I think she asked about isocyanates.

**Larry Hults (I-CAR):** Well the isocyanates are in the solvent that's where we find the isocyanates. The isocyanates are an irritant that's in the solvent material, the volatile organic compounds that we use and the solvent. So as we reduce the solvent volume we reduce the isocyanates.

**Ken Grimm (PPRC):** Okay thank you. This looks like another one that may be for you Larry since you referenced it in your presentation. But if anyone has a comment they're welcome to add to it.

Q: But he said and put it in your presentation that it sounds like the Europeans and Canadians have the complete technology but for some reason we don't have that here in the United States. Can you comment on the availability of coating products here and perhaps why that is lagging behind the other 2 nations?

**Larry Hults (I-CAR):**

A: Well Europe started pushing the reduction of VOCs and mandating it by local laws that we reduce the VOCs in Europe. So the manufactures stepped up and worked with the paint suppliers over there and started shooting waterborne paint. We could be doing the same thing here in the United States, but like anything else trying to make an industry change is very slow and very difficult. So you can mandate the change or you can encourage the change. Here we're trying to encourage the change. In Canada and Europe it was mandated but it turned out to be a really good result for everybody.

[1:09:33]

**Ken Grimm (PPRC):** Alright thank you. It looks like this is a general question as well from Tony.

Q: He's interested in knowing how you proved to your waste management regulators that your waterborne waste is a controlled waste. Maybe you can send me a chat if I'm wrong Tony, but I'm assuming you're talking about hazardous waste?

**Larry Hults (I-CAR):**

A: Well when we were talking about waterborne reducing the hazardous waste and becoming a controlled substance, a controlled material. What you do is you take the dust out of the bottom of the paint gun cleaner and send it to a local laboratory to have it tested. The test results are given to your local bureaucracy for dealing with wastes to show them what's in it. And with that you get the approval to do whatever is necessary to get rid of it based on their local rules. That's really a local rule issue is not a national one. On a national basis the stuff coming out of the gun washers for VOCs it's really a controlled waste and doesn't require hazardous waste handling. So it's a local thing because we have a whole series of local municipalities, counties, states, but have their own local rules. But it is not a hazard, it's a controlled material so it changes its category and changes the requirements from the material. So when you get tested by a laboratory to know what's in it, they will allow you to dispose of it in their own local way.

01:11:30

**Ken Grimm (PPRC):** Alright and the next question comes again from Caroline Whittaker. You know she was paying pretty well attention since she's about every 3rd or 4th question here.

Q: She wants to know if the shop owners could comment on how the waterborne products have affected their shop health and safety, particularly the things like booth ventilation, your respirator program, the employee perceptions about their health and safety etc.

**Kevin Stalder (Driven Autobody):**

A: Hi, this is Kevin with Driven Auto Body. Currently when we're spraying the waterborne paint you have to remember that we're still in a chemical environment and you need to treat it just the same as you do your solvent. The difference is that your halfway away from the isocyanates that you have in the solvent based undercoat. Any steps that you can take to reduce those harmful emissions to the environment as well as cancer causing elements to your employees is appreciate. I know that my painter, when you walk into the booth and smell the water born paint going on the car it does smell somewhat like a latex paint. It's the paint booth and mixing room where there's no smell of solvent in the room and it just makes for much cleaner fresher environment but of course you do have to remember that you're still in the chemical environment but we're half way there and the quicker we get the waterborne clearcoats, we'll be all the way there. I know all of my employees at my shop are very appreciative of all the steps I've been taking.

**Ken Grimm (PPRC):** Anyone else care to comment?

**Jerry Richardson (Advanced Collision Repair):** Well Kevin is so thorough you can just go ditto.

**Kevin Stalder (Driven Autobody):** You know well you are working in a chemical environment. One of the things that hasn't been spoken of yet is that the water is great for reducing emissions but you have to realize that only the body because it's made out of 97% water and anything can pass through your skin easier with water than it will with solvents. You really need to make sure you have gloves on and it's still an environment you need to pay attention

to you. But my painter enjoys doing some kind of boarding and playing out on the water and when he has been working here he's noticed that since he's he's come to work for me he's feeling better he has more energy after work. The other day we had to go back and use some solvent based coating on a project for the city. It was a specialist color that we have left over from our old system and I wanted to use it rather than have it be waste. He went into spray and even with all the gear he still came out and said "How did I ever work with that before?" It's funny you know once you finally get yourself all cleaned out and your life is going better because you'd use waterborne paint, you feel healthier and you come into contact with those chemicals you really notice the difference then.

[1:14:55]

**Larry Hulst (I-CAR):** Kevin this is Larry, let me step back on the other side of that issue a little bit. There are lots of people in the world who are allergic or highly allergic to latex. So anybody who has a latex problem is going to have a real problem with this paint. So we eliminated the isocyanates, but for those few people that are latex intolerant that are also painters in auto shops, they are going to have the same type of problem with latex as other painters have with the isocyanates. It acts as an irritant to them so we still have to protect everybody around this chemical environment.

**Ken Grimm (PPRC):** Okay thanks, great point. One more for you Jerry since you brought up the small amount of solventborne that you did the other day.

Q: And this one comes from surprise, surprise Caroline Whittaker. I hope she doesn't mind my giving her a bad time. She notes that you mentioned not all of your business is waterborne and wonders if you can give some examples where waterborne might not be an appropriate application.

[1:16:11]

**Jerry Richardson (Advanced Collision Repair):**

A: Well like on a plastic bumper cover they make a specialty coating and the brand that we use is very thin, light film it isn't a heavy coating by any means. But that needs to go on prior to plastic coating and then you can go ahead with the regular waterborne on top of that but you need one light coat of this catalyzed solvent already in it. There are cases like that plus the clear coats are another example but we've tried to move to waterborne epoxies. When they are available they seem to be kinda hit or miss due to the supply lines right now. And waterborne primer surface, waterborne clear basecoats used as an introduction coat to fill scratches. With the brand that we use we can go over extremely course scratches compare to some of the other brands that are available. I kinda wanted to bring that point up to but for clear coats specialty coating plastics, there's still some solvent activity but very very minimal. I mean the reduction of what we used to do is a horrendous difference actually. We don't have any recycling really, very little, except for cardboard and plastic and batteries and tires and all that kind of stuff. But my hazardous waste I have a 15 gallon barrel that has been there for going on a year and I'd be surprised if there maybe 3 or 4" in bottom. I mean we're really monitoring and we don't wanna waste products because it's expensive so this is a way to

reduce your waste. Of course the waterborne coagulant separates out the water and it just becomes inert waste.

[1:18:19]

**Larry Hults (I-CAR):** Ken, this is Larry Hults again. We've been talking about water in this paint, water in this paint, water in this paint. It's water but it's highly distilled highly filtered water that goes into this paint and I just get this feeling that somebody is going to take a can of waterborne paint and run it underneath the tap some place in the bathroom to send it down. We don't have any water supply coming into any shop that is of the quality of the filtrate used by the paint manufacturers. So one of the things that we have to remember is that staying within a product line. If you're buying PPG then you need to buy the PPG filtrate or the PPG thinners, the water that you're going to add to the paint, all has to be from that product line and not out of tap.

[1:19:13]

**Ken Grimm (PPRC):** Okay good point very good point. So this looks like it is a general question and may be for you more Larry but certainly anyone is welcome to answer it and it comes from Leslie.

Q: She notes that she assumes that waterborne paint may still contain one or more of the targeted metal hazardous air pollutants, better regulated by the new NESHAP.

**Jerry Richardson (Advanced Collision Repair):** That has more to do with brand.

**Larry Hults (I-CAR):** Yeah depending on which brand of paint you buy, and what colors you are dealing with. As to whether we have a lot or none of those product problems. The sludge that is left over it's the same kind of sludge that's left over from regular solventborne paint. The colors, the pigments, the metallics that are in the paint today with solventborne, they're the same pigments and metallics in the waterborne. They're very much the same. Basically we go up and find red dirt, mix it into water and make paint out of it so when it resolves itself back into dirt; it may just be red dirt again. But if it's a highly hazardous material that we're using as a pigment it's still going to be just as hazardous with waterborne that will otherwise. That's why the sludge that we get out of the paint gun cleaner has to be chemically analyzed to see what is actually in it before we can discern whether it's going to be a control waste or not.

[1:21:00]

**Jerry Richardson (Advanced Collision Repair):** That's correct and that brings the issue brand up again and you have to be careful with that because it's not a marketing seminar it's about waterborne environmental protection but people do need to look into what the truth is for the brand that you've chosen or will choose because there are leads in the reds and yellows in some of the toners and some of the brands of paint so you need to be aware of that.

**Kevin Stalder (Driven Autobody):** Yeah hi this is Kevin again and one of the things as far as what we're talking about here is the water is the vehicle getting the pigment on the panels of the vehicle that you're painting and when you are washing out the waterborne, what's left over in your pain guns. Once you distill it down and end up with this little wafer of contaminants you were looking at ounces instead of gallons that you have to recycle. I currently take that as a hazardous waste to my

landfill so they can handle it as hazardous waste but I'm paying 4 ounces of material to be handled versus gallons of solvent waste after it's been reduced down and distilled and the cost savings there is enormous. But you're looking at much, much less volume.

**Larry Hulst (I-CAR):** If you happen to contaminate your solventborne waste with your waterborne wastes the cost of the same amount of gallons that you're dealing with solventborne going to hazardous waste. If it has contaminants from waterborne the cost almost doubles. So you could actually increase the cost of your hazardous materials if you mix the waterborne with the solventborne residuals.

[1:23:01]

**Kevin Stalder (Driven Autobody):** And the other side of that is that your painter does have one gun that's for waterborne and another that's for solvent. You don't cross, use your paint gun so that's a little bit of a different cost there but you have to look at your products as waterborne or solvent and you have to deal with each individually. Just as you were doing before but the bottom line inside it does lead to reduce the amount of wastes.

**Jerry Richardson (Advanced Collision Repair):** That's true it becomes easier to, at first it's a little bit awkward just because it's a change but as you get to use it on a regular basis it's as simple as anything else if you've already done. I can't even imagine looking at what we're doing as being something different, what we've done for so long it's just normal. So all the shops that are interested in switching, I encourage you to just get into it. It's really not that hard, the sooner you start the easier it is study up a little bit and just make the move. I just helped this shop here in Portland this last week and the transition went really smoothly. They sent some painters down to my shop and I worked with them for a day and they've been to classes for some other brands. After going to all the training classes, they were looking at what I was doing and they chose to go with the brand that we were using. The transition has been a very nice move for them, they were ecstatic at some of the improvements, the ease of use, and reduced cycle time. It has been a win-win situation through the whole thing.

**Ken Grimm (PPRC):** I would like to interject here long enough to state that we started a little late and it's been 90 minute so if any of the panelist need to go I'd like to offer this opportunity to bow out. If you are able to stay, we do have a few more questions I'd like to go ahead and cover. Anybody need to go? Outstanding.

Q: How about this one from Barry Hammond. How does high humidity affect waterborne materials?

[1:25:27]

**Jerry Richardson (Advanced Collision Repair):** I can answer that. We live right on the Oregon Coast and the humidity's sometimes runs at 85%, we've no effect at all. That was kind of a wives tale. I don't know where in a high humidity area we won't be able to do that and it's not true when you're inside your shop working like you normally. What you have is a controlled environment anyway; you're used to working in a controlled environment. We will have a minor difference, but not much, I can't emphasize that enough, it's very, very minor. All you need is 2 degrees above the ambient temperature, with the moving air and you will have evaporation. If you were to take water and throw it out on the sidewalk and you had is slightly

warm breeze come along, it will evaporate that water. Moisture will evaporate when it's freezing as long as the air is moving. So humidity and temperature don't have much to do with it. However, I find that 2 degrees above ambient temperature is all that's really needed to increase your evaporation ratio. It's very minimal thing to consider. The biggest problem you run into is low humidity and high heat because it dries too fast. Everyone goes, "Oh, its water it's going to be so slow." It's completely the opposite. It dries so fast you can't control it so you have to put in slowed down evaporation additives into the water like in our brand. They have a slow reducer and slow emulsifier for New Mexico. So it's slowing it down that's a problem, humidity is actually your friend.

[1:27:35]

**Larry Hults (I-CAR):** If you're painting and letting the paint dry and just the ambient air, not inside of a controlled booth or inside of a shop, just ambient air. Then the humidity makes a big difference, but we don't do that in the United States. Almost everything we dry, we dry inside an enclosed building or inside an enclosed paint booth, or a paint booth that is controlled from the outside. So where the humidity could become an issue you have no real good water filter from your air compressor, you'll get 80-85% humidity coming from compressed air right from your paint gun. Now you have water being mixed directly in the paint and that slows down your drying time on the surface. It actually changes the viscosity of the paint just a little bit. So humidity can become a problem depending where it came from and how much it is. But with a good clean compressor, and a good clean environment, and inside a controlled environment inside a shop, humidity is going to be a very small problem.

[1:28:50]

**Jerry Richardson (Advanced Collision Repair):** I think it's actually a bluff because what it does is the more humidity is there it allows the materials and your metallics so you don't have the fast drying halo problem. The more humid it is, the easier it lays down.

[1:29:12]

**Larry Hults (I-CAR):** And once you start mixing the paint, the humidity is outside and your paint manufacturer will tell you, "At this humidity, put this much reducer in it." You're just accommodating for the existing humidity by the way you reduce the product. It's something you have to be aware of, but you don't have to do a whole lot of major things to combat it.

[1:29:36]

**Jerry Richardson (Advanced Collision Repair):** Yea I find what turned out to be the reverse of what you would think. In a particular brand, the more reducer you put in it the faster the water evaporates. But you think the more water takes longer to dry. And it's really not true, if you don't get enough reducer into the basecoat the basecoat will get a little spongy from the latex and so it tends to hang onto the water and by putting additional reducer into it, the water works with the latex and it lays down flatter and water evaporates off the top really quick. But if there's not enough water reducer in it, then it just tends to hang on to it like a sponge would rather than hanging onto it like putting water onto a piece of glass. So more water makes it drive faster.

[1:30:48]

**Ken Grimm (PPRC):** I'm going to move on here so we can get through the rest of these.

Q: I have one here from John Taylor. He notes that all of the shop owners unanimously talk about the benefits of waterborne coatings. He's curious about one or 2 things the shop owners think is preventing in a faster and more widespread conversion?

**All Panelists:** Change change change. People are afraid of change.

**Larry Hults (I-CAR):** People are too busy to deal with it; they just give me the same stuff. "I don't have time to deal with it."

**Jerry Richardson (Advanced Collision Repair):** People transition or make a change from pleasure or pain. It's just like a psychological fact, pleasure or pain. So if there is no mandate there's no pain and if they're content with what they're doing if you know pleasure to change so they're not motivated by either force.

**Larry Hults (I-CAR):** If you make the change the results are you will be more competitive, you will save funds in terms of how much more cars you can get through. So the cost of the product like you said, the efficiencies will gain you productivity and it's just the right thing to do, and it's also good for business.

[1:32:20]

**Ken Grimm (PPRC):**

Q: Well this question comes from Judy and Tom from the Washington State Department of Ecology and they're asking what do you clean the vehicle with to prep it?

**Jerry Richardson (Advanced Collision Repair):**

A: You start with a mild tar remover and we don't slop it on, we just use a minor amount to get rid of road tar. And then waterborne cleaners, they make excellent waterborne cleaners that are like glass cleaners but it's a specific product and they're waterborne and they're wonderful. You can take a panel and clean it with the old solvent type cleaners and then come back with the waterborne cleaner with a white rag and it just pulls the dirt off of it. The products are so superior that is almost impossible to dispute you have to experience.

[1:33:37]

**Greg Richardson (Clover Park Technical College):** The wet wax and grease remover, to me the way you find out is the manufacturer will come in write it a demo in your shop for a week. From my perspective in 3 days I was like "Ohh I'm sold" you're alright, we'll see it you'll be amazed the product is superior to anything out there.

**Ken Grimm (PPRC):** Alright, I've a question here from Brad Hendricks the instructor from Puget Sound Skills Center in Burien.

Q: He's wondering if any of you have had experience with problems with adhesion on urethane bumpers.

**Larry Hults (I-CAR):** Well they have been using waterborne primers on bumpers in California for the past 20 years now and there are not adhesion problems as long as you're using a good quality waterborne primer.

**Kevin Stalder (Driven Autobody):** I think it also gets into your prep you still have to prep your surface properly to get the right adhesion of any product.

**Larry Hults (I-CAR):** That's the biggest problem with plastics repair is getting the surface prepped for the finish.

**Ken Grimm (PPRC):** This question comes from Holly Luther and I think the Europeans and Canadians have answered this.

Q: But she asks if you can use water based primers, water based basecoats and water based clearcoats altogether.

[1:35:03]

**All Panelists:** Yes.

**Larry Hults (I-CAR):** In this Seattle metro market there is a European manufacturer that has clear coats for sale here in the metropolitan area and that clear coat has been put over the waterborne base coat products of different brand lines and works very, very well, very durable no problems with it. But it was done as an experiment and I was involved with that but that's as far as that goes. It's a very small product line and if you're using PPG or you're using BASF whichever product you're using they won't recommend that clearcoat. So because we're concerned about comebacks and paint warranty we want to stay within the product lines that are available with the product that we buy. And so none of the major manufacturers of paint coatings in the United States are providing us a waterborne clearcoats at this time.

**Jerry Richardson (Advanced Collision Repair):** No, they do have UV clearcoats in the works too.

**Larry Hults (I-CAR):** Yes.

**Jerry Richardson (Advanced Collision Repair):** Ultra violets. They've used ultra violets clears in the factory dash panels in the wood grains since the eighties. And it's extremely good, very durable, and so it's similar to the resin they use to do the ding repairs in the windshields and, shouldn't do now, but the airbags and stuff, but that technology has been around for a long time. They can put a UV clear on and cure it in the sunlight in a couple of minutes. Doesn't polished real well, can't blend it in, has some drawbacks, you know, to put it in the market, but the technology is there, it's just, you know, got to get it to the next level.

[1:36:44]

**Ken Grimm (PPRC):**

Q: So here's an interesting question from when Linda Glasier, and she's curious to know how are you measuring how many new customers come to your shop due to your waterborne, water based painting practice?

**Jerry Richardson (Advanced Collision Repair):**

A: Well ours are none, that's because we're the only shop in town so they're gonna come here anyway so we didn't get much recognition for it, but we're just doing it because we wanted to, but some of the other shops probably have a much different effect because a lot of people are concerned about the environment nowadays, you know, we want to know other shops have different

**Larry Hults (I-CAR):** You can try to market your shop with the environmental improvement, you can try that all you want to, but word of mouth is still the biggest marketing opportunity that you have for a body shop. Over 85% of the customers come to the body shop from a recommendation, and it hasn't changed for the last thirty years that way. So how we as a culture, as a society, choose our body shops is starting to change because of the internet but not because of the fact that shops are

greener or using waterborne paint but the internet, people with their blogs, and their twitters and all that kind of stuff, are getting their recommendations from the internet now instead of their neighbors or friends and relatives. But that's still the highest volume of customer based, is from recommendations.

**Jerry Richardson (Advanced Collision Repair):** Well, it will always be that way until people begins to plan their accidents, and then they'll have to not call them accidents anymore.

[Laughter]

**Larry Hults (I-CAR):** Yeah, marketing body shops is a really tough topic to talk about.

**Jerry Richardson (Advanced Collision Repair):** Yeah it's a split second of a moment in time, and that's the way it is, you know.

[1:38:27]

**Larry Hults (I-CAR):** But it certainly doesn't harm a shop if they're able to compare themselves by saying we are doing this and doing that. And if it's environmental or service or cleanliness or whatever it is that separates them from the mass of body shops, it does help.

**Jerry Richardson (Advanced Collision Repair):** I think the best shot at that is, the customers that you do get, so that you could show them and explain to them, then I think they're going to stick with you, you know, they're not going to end it to, of course, if they were the only shop in town, but, I'd say...

**Larry Hults (I-CAR):** You get a lot of repeat business down their do you?

**Jerry Richardson (Advanced Collision Repair):** Yeah, our paint manufacturer, our rep people that come down, they say our town is their own personal test lab, thirty years worth of retail cars running around here. But yeah, we do get to watch our products and I can honestly speak for durability because my client, my customers, I've worked on all these different random paints on these cars they pass down to their kids, I'm on fourth generation clientele kind of thing. I do get to watch it, it is a superior product and I cannot emphasize that enough. It is superior in all ways. And until people experience it it's will be really hard to believe it's that much better but it is.

[1:39:51]

**Kevin Stalder (Driven Autobody):** The other side of that is, I'm a newer shop in Alaska, and I'm the only green shop so to speak in Alaska, and I do brag about that in terms of my yellow pages and advertising and I ask customers, every customer that comes in, "how did you hear about us?" or "how did you get here." About ten percent of my customers come here specifically because I am a green shop. But on the other side of that, I've got a fairly large shop. Everybody is certified. [1:40:21] You have to have the equipment. It's an aspect of your business. If you're just bragging about being a green body shop or a waterborne body shop and you don't have anything else to offer, it is not going to be the vehicle for success. It's just something to augment it. And like I said, it's the right thing to do but you have to have all the other elements in place to effectively market your business. Just as a restaurant would, you have to have something to go along with it.

**Larry Hults (I-CAR):** If they can't find you, and when they do find you it's a filthy pit hole and there's no windows, no doors, and they can't find the office, no place to park, you know, they're not going to open the door.

**Jerry Richardson (Advanced Collision Repair):** That's Right. It's still just basic marketing, kind of getting off subject for waterborne. You have got to be able to fix everything that comes through that door, and we've invested deeply into computer diagnostics and suspension four wheel alignment and the new photo cell state of the art, everything I can get my hands on, it's just a constant, I've been doing this my whole life, I started in 1968 making a living and you change all the time. There is no "oh okay I'm done now," it's just constant.

[1:41:43]

**Ken Grimm (PPRC):** Alright well I think, it's about 11, so it's probably time to wrap this up for everybody. There are some questions here, actually a number of questions that have gone unanswered and rather than hang out until 11:30 or 12:00, if the panelists are up for it, I think what I'll do is compile a list of these and send them out by e-mail. When I get the responses back, I will again compile a list and put it on our website, along with the presentation. This will be on the PPRC website with their list of webinars. It will also be on the Environmental Protection Agency, region 10, Collision Repair Campaign website, so if folks want to review the webinar it will be there. If they have colleagues or others that are interested you can refer them to those locations to look at this probably by the end of the week. I want to really thank all of our panelists. I think you guys did a tremendous job. Your information is great. Your work efforts are fantastic. I hope we have the opportunity to work again in the future. Thank you very much.

[End of webinar]