

From: Roger Wallace <rwallace@gmavt.net>
Date: February 20, 2018 at 3:32:52 PM EST
To: <CPearson@leg.state.vt.us>
Subject: "Fair Repair Law"

Hi Chris-

I am Vermont resident and an (older) electronic engineer and tinkerer who has grown up in parallel with lots of the technologies discussed on VPR today. I repair our household electronics, whenever possible, for environmental reasons and have a perspective and information you may find of use, or at least interesting. In fact, our flatscreen TV is currently apart in our living room because it died while we were watching the Olympics this past weekend. We have a \$40 circuit board on order and I am 85% confident that will restore the TV to working order and keep it out of the waste stream for at least a while longer.

In the interest of brevity, I'll list information and opinion items (no particular order) and would be glad to engage in a more extended email conversation if it would be of help to you.

1. I encourage you to go after intentional planned obsolescence and "low hanging fruit" in a first edition of this law instead of everything. Consumers (or at least local repair shops) should be allowed to make the most common 2, 3 or 4 repairs for each device or vehicle.
 - a. Battery replacement and screen repairs are probably the big two for cell phones. Just the ability to replace batteries would have a huge financial and environmental benefit.
2. The complexity of electronics and vehicles have increased exponentially. The simple and unfortunate fact is the average person isn't able to repair devices like they were a few decades ago. The move to every increasing levels of integration is, by default, making more and more devices and subsystems look like "black boxes." I am a very skilled person in this regard and most often it is no longer possible for me to troubleshoot down to the device level to make electronic repairs. Please be careful not to legislate the impossible or the impractical.
3. The \$40 circuit board I purchased for our TV is available only because a company is taking-in consumer electronics damaged in shipment and removing the functional components. Often, it is not financially feasible for a manufacturer to distribute sub-system components into the marketplace because of backend labor costs.
 - a. In this regard, please be careful not to create requirements that make things more expensive for end users.
 - b. Fixing my TV will require several hours of my labor which is free to me. If I had to pay a repair shop, it may be cheaper to buy a new TV.
4. An Ag dealer representative called in during the show and some of what he discussed is based on reality, but only just.

- a. For example, there is a huge web based market for “after market” emission control computer chips that allow vehicles (mostly cars and trucks) to get more power and acceleration. The use of these chips have a negative environmental impact. Users will often switch back in the original chips for inspection.
- b. The Ag rep mentioned concerns over litigation if safety or environmental features are negated by the end user. A carefully crafted hold-harmless clause in your bill could resolve this objection.

5. A detail the Ag dealer omitted is an important market trend- the “internet of things (IOT). In addition to home appliances and industrial equipment, IOT will be standard in cars, trucks, and ag equipment. The manufacturer will know immediately when Preventative Maintenance (PM) needs to be done; when something breaks and even when repairs are made by others. They will know when a farmer works on his or her own machinery. Car manufacturers will know when a car owner misses an oil change.

- a. Please consider including making IOT PM data from major capital purchases available to the end-user in real-time a requirement in your bill. This will have huge value to the end user!

With kind regards,

Roger Wallace

Monkton, VT

1. PS> I only heard of your bill today and have not read it. And ... Regarding “planned obsolescence” ... here is an interesting piece of trivia ... There was a big uproar in the mid 1970’s when it was leaked that AT&T (Ma Bell) would stop designing phones for long life and instead design for a 5-yr life expectancy as they were switching from leasing phones to selling phones.