

EMERGING TECHNOLOGIES SHOWCASE WEBINAR: ENERGY EFFICIENT BLOCK HEATERS

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Question and Answer session

Q: Are there any other manufacturers besides Hot Start?

A: BPA did some market surveys and did not find anything else that had a product with a forced circulation type of heater.

Q: What about kilowatt demand savings?

A: We did not look at that. Some of the data at some of the sites had flat baseline loads where it was on all the time. That could indicate that the heater might be slightly undersized in some generators. In terms of demand, from a heating standpoint, you might want to go with a higher kW generator. Outside of that, we only looked at energy.

Q: Do new generators come with energy efficient block heaters?

A: Jeff: That's becoming the standard with many of the larger manufacturers who make the bigger sets. We're still having an issue with the smaller units though. There is a price point that we're trying to overcome and the smaller units aren't quite there yet. We're still trying to understand, as Erik was talking about earlier, why we have negative savings. Due diligence needs to be done to fully understand that before we approach the smaller units on the big level. There are a lot of non-energy benefits as well for the generator package that goes with that technology.

Q: Port of Tacoma has about 100 mobile cranes with diesel engines. The crane engine blocks are heated when the cranes are not in use, estimated at 5 days/week. They are interested in replacing the existing heaters with circulating heaters. Would the crane block heaters be qualified as a BPA measure?

A: Our specific measure is centered around standby generators, so the mobile cranes would not qualify. It's a good opportunity and something we should probably look at. There is other work going on in terms of engine controllers such as vehicle engine controllers. We're doing some pilot work for that, however

it would not qualify under BPA's existing program offering. But it's a good idea because the run time is much lower than the standby generators.

Q: Do thermo-siphon heaters have as good a uniform distribution of heat compared with the pump heating method?

A: No they don't. If you recall the picture or video from the presentation, the distribution of heat is much different. It's much hotter at the point of entry to the engine and less so across the engine, which you could see if you looked at a profile. The circulation heater has much more uniformity because it forces the coolant and the supply temperature is much lower. It is around 180 degrees compared to 120 or 130 supply temperature.

Q: Why did the post-pilot potential increase? Did the pre-pilot potential assume lower savings?

A: Yes, that's correct.

Q: Could the installed cost be lower if the technician installed the energy efficient block heater during preventative maintenance and didn't have to make a separate trip.

A: Yes. Those costs were high level estimate costs. If they could schedule it on a preventive maintenance trip rather than going out on a separate trip, it would lower the cost.

Q: Any there any plans to develop a program for emergency vehicles at un-heated fire stations?

A: Yes. Over the last winter we have been looking at engine controllers for bus fleets. They can be used under any vehicle that heats.

Q: In the test, did you find that all of the originally installed heaters, thermos-siphon heaters, were working properly. Was it ever necessary to repair or bring it up to proper operation to establish your baseline prior to retrofitting.

A: In most cases, it seems that they were operating properly. There was one case in Montana that, in the test for baseline data, the usage really dropped off. The coolant had leaked out and the energy usage went way down. We noticed that and fixed that problem and re-baselined. That was one sample, but in most cases that didn't happen.