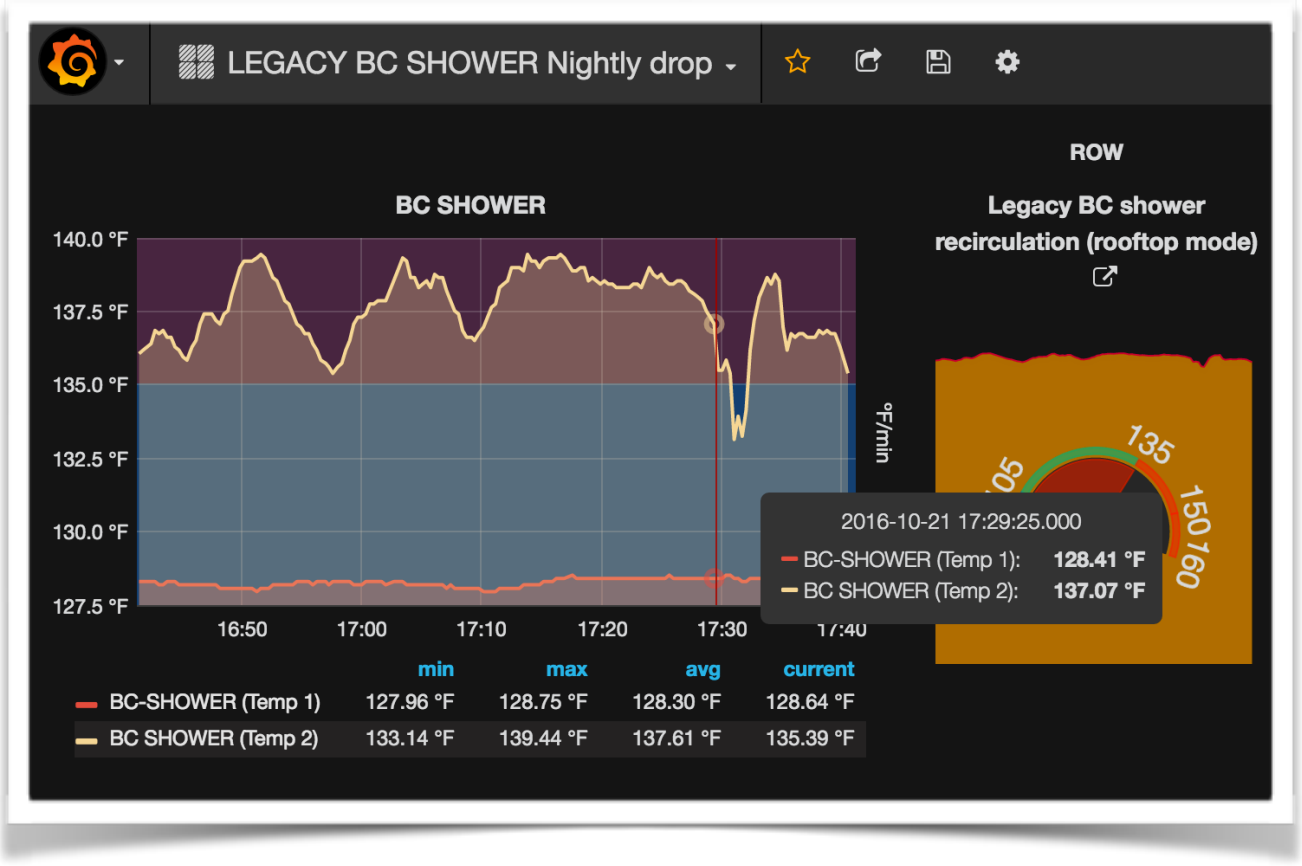
Hi Nabil,

here's a quick follow up report on the legacy shower issue The temperature was originally set to app. 125 deg and today the average was about 135 degree which may shift shower # 6 out of a decent temperature control range.

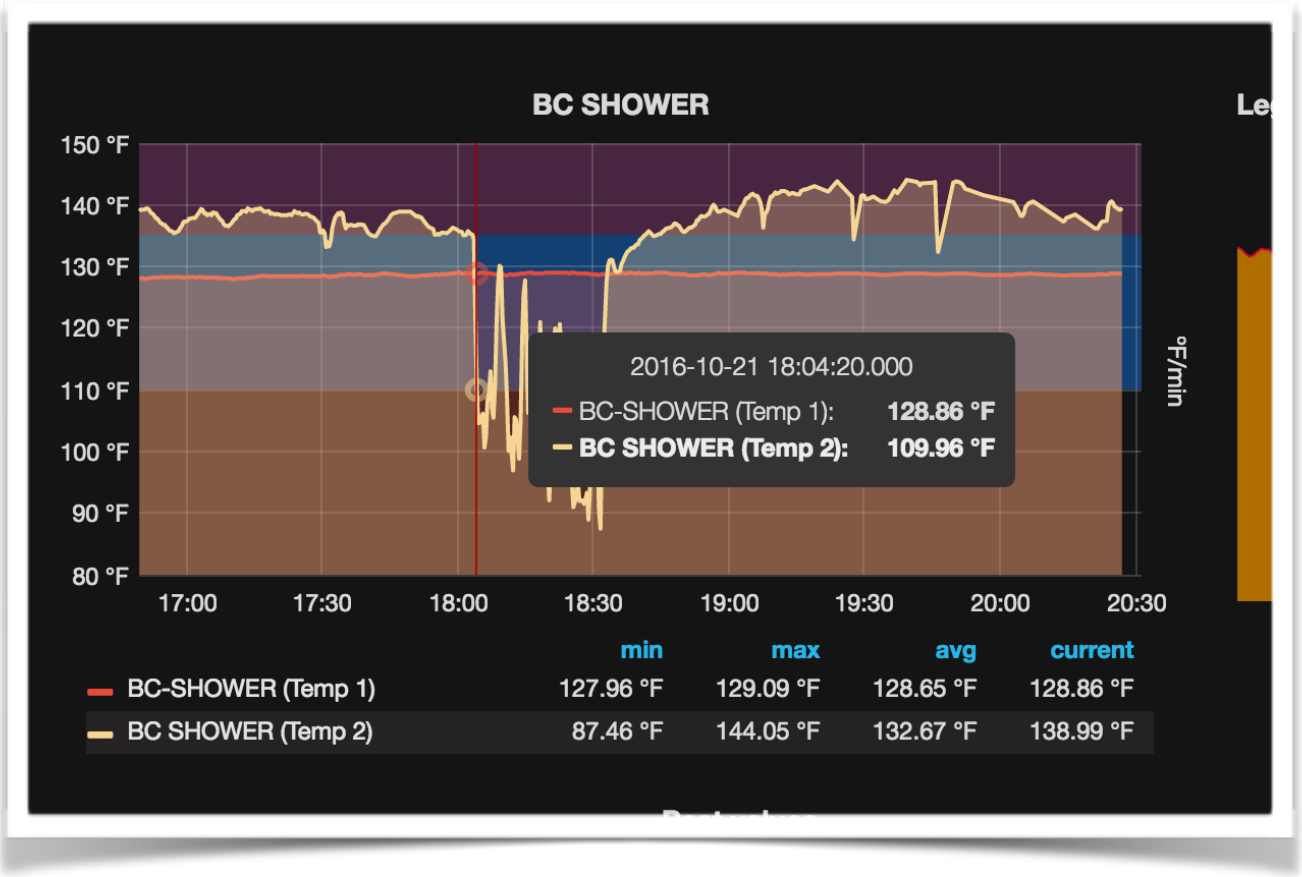
We "attempted" to fix it Friday night by precisely adjusting the the temperature on the mixer and the hot water flow on the horizontal bypass valve.

Here you can see before the "work" being performed (Temperature his above 135 deg F and should be no higher then 125 deg F).



We changed the median temperature between hours 18:00-18:30 to app. 120.

But shortly after Phillip left the temp went back to 135 up to 140.



This indicates a lack of cold water pressure at the mixing valve. No cold water -> no temperature control and the mixing valves if each shower are setup for app 120 deg and not for 140! The cold water supply is directly coming from LAWA.

The TMV (thermostatic mixing valve) is supposed to shut off when the cold fails. However, it may nor fail completely and just looses pressure so the temperature cannot be achieved.

So I sent Phillip up on the roof to check the Quantum Flow pressure boost system and he found it working to maintain boost pressure at 60 psi.

However, he reported huge fluctuations on the cold water feed pressure from LAWA between 20 and 40 psi.

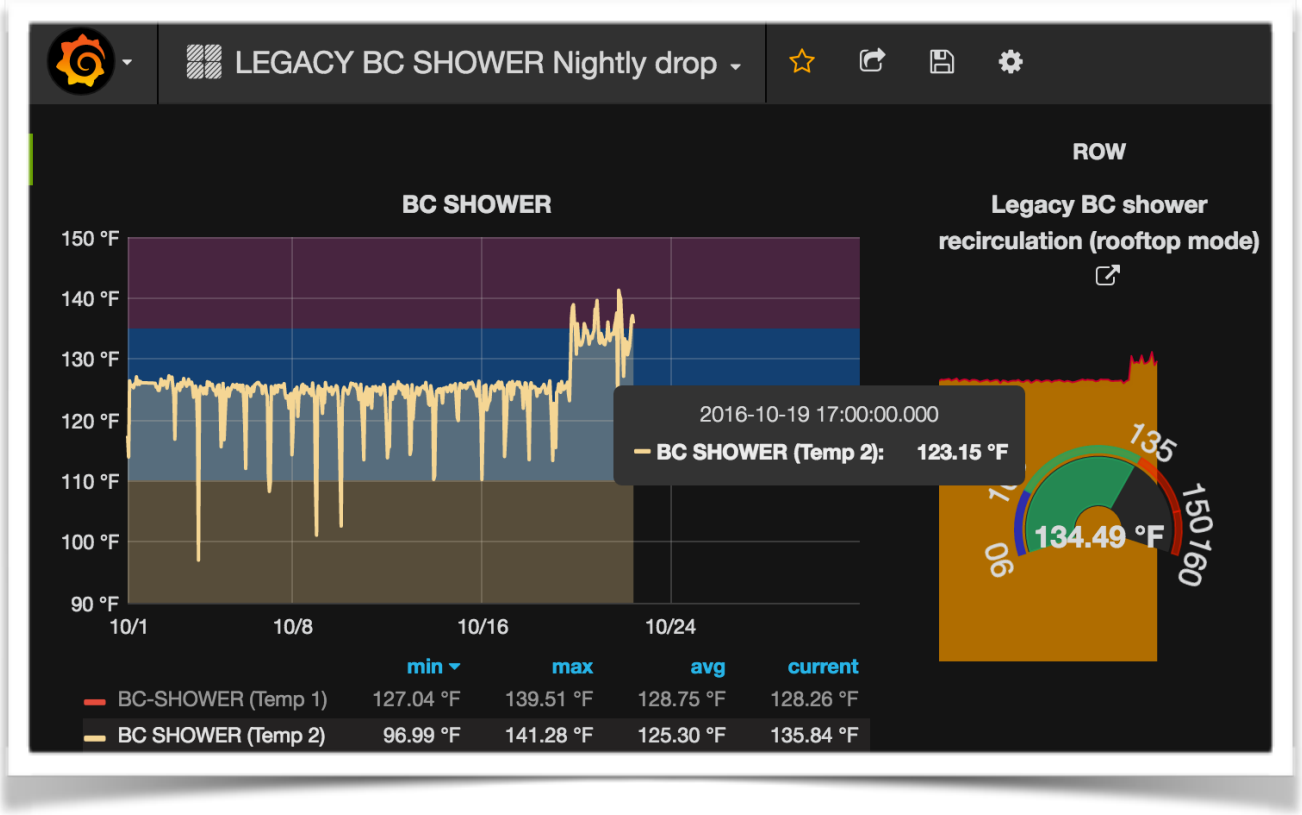
The mixer (TMV) in the legacy shower is pressure compensated BUT NOT ABLE TO ACCOMMODATE large swings in either cold or hot inputs. The hot is boosted by the Quantum flow and the water heaters circulation pump to at least **60 psi + head** (distance from rooftop of app 20 ft) will add another 10 psi.

At the cold supply it is likely not from a boosted source and **may be as low as 20 + 10 psi** (head) and inadequate to operate the mixer at this a large variation

Call it another design flaw and getting away with it. Cold and hot need to be at app. the same supply pressure or boosted equally or it cannot work reliably with a poor water feed from the source.

A TMV data sheet is included.

I made one more important observation: looking at historic data (see image below) everything was fine until 10/19/2016 at 17:30. As seen below, the max temperature was well controlled and capped at 125 deg F before and suddenly changed by 10 deg F to 135 . Does anybody know what happened on that day ?



Suggestion:

Remedy : long term , pressure needs to be equalized, instantly there are 3 options:

a) we can reduce the rooftop water heater set point from 150 to 135 and the legacy showers are then running at the preset intended without mixing required.

b) we can set the temperature on all 9 showers to work with the higher feed temp of 135-140. This will be fairly easy too but eliminates the possibility to fall back on the low temp LAWA backup supply they are not as ware off or guarantee for.

c) we switch the legacy showers back to LAWA supply and hope for a reliable supply period. It can last for months or days.

Let me know how you wish to proceed .

Peter