

Statement to House Science, Energy & Technology regarding SB540

I am concerned about power meter energy consumption and production measurements in relation to the plugin solar energy production devices and the energy measurement meter's potential adverse impact on customer bills. In particular, I am addressing the ITRON C1SR meter used by Eversource, which appears to be the predominate meter in the Berlin-Gorham area. I do not know if my concern applies to other residential energy measurement devices used by utilities in the state.

My concern regards the 'non-detent' meter default operation as described in the ITRON C1SR technical reference manual as published on manualslib.com (search for ITRON C1SR). My primary concern about the power meter operation is described on pages 39, 40 and 75 of this manual.

Pages 39 & 40 of the manual describes three power measurement modes of the ITRON C1SR and shows the meter display to identify what measurement mode the meter is operating. The three modes are: non-detented register, detented register and net register. The meter default mode is non-detented register with which I have a concern.

On page 39 of the ITRON technical manual the section in the section 'non-detented register' a LED display is shown. The numbers from this display are used for billing. The sentence associated with this image states "The Non-Detented Register displays the delivered energy plus received energy". In other words energy from the grid plus energy from the plugin energy production device is what the display shows.

On page 75 of the ITRON technical manual, the second sentence of section 'electronic detent' states "Standard operation for this module is to accumulate both forward and reverse energy flow in the positive direction" which is my concern. In most house holds this may not be an issue, but in frugal energy usage home this may be an issue.

This same section on page 75 also states "However, the C1SR personality module is available with an electronic detent that will cause the meter to ignore reverse energy flow". This is a solution to my concern specific of the ITROM C1SR meter.

As an edge case example, of my concern, assume the home has no active loads and a plugin solar device which is also actively in generating power. As a result of standard meter non-detented operation the forward energy supplied from the grid and the reverse energy supplied by the plugin solar device is measured as consumed energy, for billing purposes. As a result the consumer is being billed, by the energy supplier, and distributor for power which the customer has produced. This seems to penalize the consumer with unnecessarily higher bills and reward the energy supplier and distributors with unearned income from billing for power they didn't produce or distribute. Any time a home's plugin solar energy production exceeds the the current usage, the meter reading goes up just as if the grid supplied the energy.

In my small sample survey of residential energy measurement meters in the greater Berlin-Gorham area all, but one were ITRON C1SR meters. Of the ITRON C1SR meters, all but one were operating in non-detented mode. I did find one ITRON C1SR meter that displayed both the DET and NET icons in the display. This meter is associated with a service that was and may still be billed as a temporary service.

Since this adverse customer impact condition exists in the ITRON C1SR meter, what other residential energy meter makes and models used in New Hampshire have similar or other

unexpected ways causing adverse customer billing impacts in this new world of plugin energy production devices?

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