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MISC-2022-03 Ensuring accurate data acquisition

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The raw data for reporting systems the Energy Commission implements should always be preserved and made available to the public.

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Additional submitted attachment is included below.

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The raw data for reporting systems the Energy Commission implements should always be preserved and made available to the public.

In my prior comment, [MISC-2022-03 Protection of confidential information and data access](#) I explain a simple, low cost, and reliable method to protect confidential information while allowing easy data access for all.

I will now speak to the need for accurate data acquisition. Some data acquisition systems have inherent data quality problems. There are a number of IEEE articles on the subject of data correction and smart meters*. Each article may contain a bias that could corrupt the data in a effort to make the data look clean or as expected. Every effort to ensure accurate data acquisition must avoid changing the raw data through downstream processing. Data that appears to be a outlier may actually be true and could lead to a breakthrough.

Any data that is thought to be in error should be resolved by inspecting the connection to instrumentation. Are you reading the correct sensor, is there a power issue, is there a outside influence causing the sensor to misread?

It would not be the first time a sensor was cataloged to the wrong node. Is there a power issue? It would not be the first time a sensor was failed to read correctly because a intentional radiator was placed to close or produced too much power near the sensor or local data storage for the sensor.

When local data storage for the sensor is thought to be corrupted, sometimes comparing related values can pinpoint the error. If data such as watts are thought to be corrupted, reading volt amps and power factor may confirm the data.

It may seem impossible to do this type of checking. Most utilities that use smart meters have rules as to how often the meter may be checked. A coordinated effort between the Energy Commission and utilities could greatly reduce the time and effort to resolve corrupt data issues caused by sensor connection, sensor, or local data storage for the sensor.

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* links to IEEE articles:

<https://ieeexplore.ieee.org/document/9191736>

<https://ieeexplore.ieee.org/document/8501256/>

<https://ieeexplore.ieee.org/document/6672786>

<https://ieeexplore.ieee.org/abstract/document/9016055>

<https://site.ieee.org/pes-bdaps/texas-residential-smart-meter-data-usa/>

<https://ieeexplore.ieee.org/abstract/document/7882676>

<https://site.ieee.org/pes-bdaps/smart-meter-electricity-trial-data-ireland/>

<https://ieeexplore.ieee.org/document/9783887>

<https://ieeexplore.ieee.org/document/9122054>

<https://ieeexplore.ieee.org/document/10025832>

<https://ieeexplore.ieee.org/abstract/document/9494847%20>