

# TekTrakker® Reports

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## Hardware Reliability Comparisons, Benchmarks and Monitoring



### September Issue – Smart Grid

In this issue we focus on the need for utilities to share information about their equipment repair experience to avoid costly errors.

From “Bleeding Edge” products in pilot and test programs to legacy equipment targeted for replacement, comparisons of reliability are the essential starting point for planning, evaluation, and operational monitoring.

Sharing failure history with each other to build a database of hardware failure rates is easily accomplished through TekTrakker.

#### Failure Rate (MTBF) in months Electric Meters by Type

Range:

Legacy Meters.....**2400 months**

“Good” AMI ..... **1200 months**

“Bad” AMI.....**800 months**

Data above is gleaned from public filings and vendor advertisements.

Details regarding particular models, further parts details, and comparisons to your enterprise are exclusive to members of a TekTrakker Data Cooperative. For further information please visit us at [www.tektrakker.com](http://www.tektrakker.com)

**With \$ 3.4 BILLION on the way, utilities are both anxious and apprehensive about which equipment to deploy. Good selections will win applause – poor ones public wrath.**

So how does anyone buy the “good” stuff and avoid the “bad”? Where is the “Consumer Reports” buying guide to all this new gadgetry? How does one compare products other than on price and vendor claims? Can small and isolated pilot and test programs tell us enough?

The solution is for utilities to team up and leverage their own experiences into a database of hardware failure data. Each small test or pilot.....(cont. pg 2)

#### Regulatory Reporting:

##### Use repair data to improve measurements

Most utilities are already capturing details regarding meter failures to meet regulatory requirements. Data collected for these purposes can be a valuable resource instead of a reporting annoyance.

Analysis of root cause reporting allows a finer level of detail than is otherwise possible. Perhaps consumers will be more inclined to “hack” into new meters than old. Perhaps certain types of parts are causing the bulk of failures. Certain equipment may function poorly in some climates.

#### Use Failure Rate to Project Repairs

##### Repairs per Year 1 Million Meters

Legacy Meters: **5000 repairs per year**

“Good” AMI: **16,000 repairs per year**

“Bad AMI” : **50,000 repairs per year**

Could your operations handle the increased volume of repairs? Would the repair costs exceed the amount budgeted for on-going service? What does the repair cost do to the rate case?

## Billions

*(continued from pg 1)*

adds to the broader knowledge base. New equipment reported to the group is added as quickly as it is deployed. The combination of variety, quantity, and time creates the most efficient and most comprehensive measurement of reliability possible.

Statistically, field experience is regarded as the most valid of all calculations of Mean Time Between Failure (MTBF). Vendors cannot develop their own view of their products any more efficiently.

The practical problems of collaborating on data are resolved by joining the Utility Data Cooperative from TekTrakker. We provide the mechanics for the comparison

by managing the translation and standardization of data from disparate sources, executing the calculations, and providing reporting and secure data access to members.

All utilities (Electric, Gas, Water) are invited to join a product specific group. We handle data from any source, in any format, and from any size organization regardless of form of ownership.

A limited number of Scholarships are available. Applications and details are available on our website or at Autovation 2009 in Denver (booth # 418)

[www.tektrakker.com](http://www.tektrakker.com)



## Unfounded Expectations of Reliability

Paraphrasing Joe Rigby (Chairman of Pepco Holdings),

**“The move from traditional meters to AMI is a move to computers with metering applications.”**

We couldn't agree more.

Our experience of computing and communications equipment makes us very concerned that utilities have expectations for reliability that are unfounded. Limited data on AMI meters confirms our concerns.

Consider the chart of the first page – legacy meters need repair rarely – so rarely that managers do not even monitor their reliability. Yet new devices based on digital technology with electronic circuit boards, wireless links and many similarities to consumer electronics are widely assumed to be equally durable. We are already monitoring many similar devices and have data showing very poor levels of reliability relative to meters.

There is no compelling evidence to believe that the weatherproof versions of computers and communications equipment are going to be more reliable than their interior counterparts.

### Failure Rate (MTBF) in Month Midrange-Type Servers

Average for Midrange:	<b>33</b> months
Best Performers:	<b>104</b> months
Poor Performers:	<b>14</b> months

## Coming up – October Issue Focus on Warranty Agreements

Our product launch for the Utility Data Cooperative will be at Autovation in Denver Sept 12-16, 2009. Visit us at booth # 418.

### For More Information:

[www.tektrakker.com](http://www.tektrakker.com)

[info@tektrakker.com](mailto:info@tektrakker.com)

866-488-6855 (toll free)

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