FROM THE PROGRAM MANAGER

By: Michael Ott, MDMS Project Manager, USACE—Huntsville Center

We are pleased to report that MDMS is capturing meter data for more than 230 million square feet of Army facilities worldwide, with new sites and additional buildings being added each month to the MDMS.

As we continually assess how well MDMS is serving its intended users, we realize that the energy usage reports have been a sore spot with Energy Managers. Slow loading and report inaccuracies due to gaps in meter data hinder tenant billing efforts. The article below: *Quick Reference Monthly Usage Report* discusses the first step in our goal to fully automate the monthly tenant billing function after initial set-up by the Energy Manager.

The COTS software evaluation effort is in its final stage. Energy Managers representing every Army Command are test driving trial versions of software offered by the remaining finalists. Functional priorities for the MDMS are also being identified that you can read about in *COTS Evaluations Bring a Host of Suggestions* on pg. 3.

A new feature, *Tech Notes*, on pg. 4 has been added to provide technical information and instructions intended for meter installers and network technicians. As new meters are added to MDMS it is important that the conventions for naming meters be followed. Please share this information with the appropriate people in your organization.

As always your input is valuable, and we welcome your feedback at usarmy.coe-huntsville.cehnc.mbx.armymeterhelp@mail.mil.

Michael Ott, Project Manager, MDMS
USACE—Huntsville Center

QUICK REFERENCE MONTHLY USAGE REPORT SPEEDS INFO

The MDMS will soon offer a Quick Reference Monthly Usage Report (QRMUR) option that quickly generates a report similar to the one below. To ensure reliability, the report will generate the usage total only if all of the building's meters for a particular commodity were reporting data to the MDMS at the beginning of each consecutive month, and no meter roll-over occurred during that month (think odometer readings). Note the "Offline" example below. Because the monthly usage is calculated by the difference in the meter readings at the start of each month, an accurate total usage results even if a network outage occurred sometime in between those two meter reading events. *(cont. pg. 2).*

Export to Excel ← See *"Tips "* on pg .4 about this feature

| Building Number	Building Name	Month/Year	Commodity	Usage	Units
367	RANGE BUILDINGS	AUG 2015	Electricity	28600.8750	kWh
390	LAB/TST BLDG GP	AUG 2015	Electricity	94545.7500	kWh
392	LAB/TST BLDG GP	AUG 2015	Electricity	97407.6875	kWh
394	LAB/TST BLDG GP	AUG 2015	Electricity	200247.7813	kWh
400	CROZIER ENGR BLDG - ADMIN GEN PURP	AUG 2015	Electricity	7293.6563	kWh
4118	ADMIN GEN PURP	AUG 2015	Electricity	Offline	kWh
4120	PAUL B HUNTLEY BLDG - ADMIN GP	AUG 2015	Electricity	17303.3750	kWh

BUILDING STRONG®

MDMS UPDATE

QUICK REFERENCE USER REPORT SPEEDS INFO ACCESS

(cont. from pg. 1)

"The goal is to provide fast and reliable energy and water usage data," said Peter Rackauskas, MDMS Software Developer. "There are trade-offs with testing for data reliability, processing speed, and user query options. The QRMUR will be pre-generated every month for every building and meter. This will minimize the user's wait time for these reports." (Editor's note: the QRMUR start/end dates are pre-set to the first and last day of the month. Customized date queries are available under the Usage Report, but those reports take considerable time to generate.)

Features associated with the QRMUR include the following:

- Accessibility from the MDMS Homepage via new icon (bottom green tile)
- Users can select a site without having to wait on an HQDA-level report to finish its caching.
- Users can select one or multiple buildings for report generation
- As an option, users can select specific meters of interest
- Users can select up to 24 months for displaying usage totals, meter data permitting.
- Report is designed to prevent misinformation due to meter network outages
- Export to Excel capability allows user to re-order and re-format the report as desired.
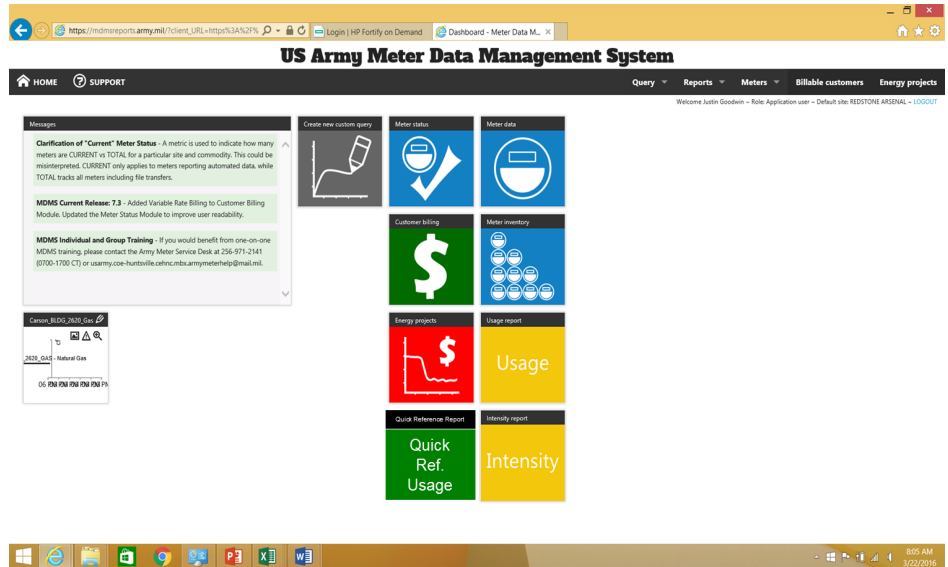
Future improvements to the QRMUR will be reliable site usage reports. This will require programming MDMS to include only buildings that were online to the MDMS when the monthly usage is calculated as well as omitting any new buildings reporting to MDMS after the first of the month. Even though a reliable site usage report is but a sample of the total usage for that site, the trending for energy/water use by the site's largest energy/water consumers should be indicative of the entire base.

Future site usage reports will indicate how many buildings, total square feet (SF), and what percentage of total buildings and SF are reflected in the report. That is our next goal. In the interim, users should be alert to any/all prolonged meter network outages that distort (under report) site level usage.

BUILDING STRONG®
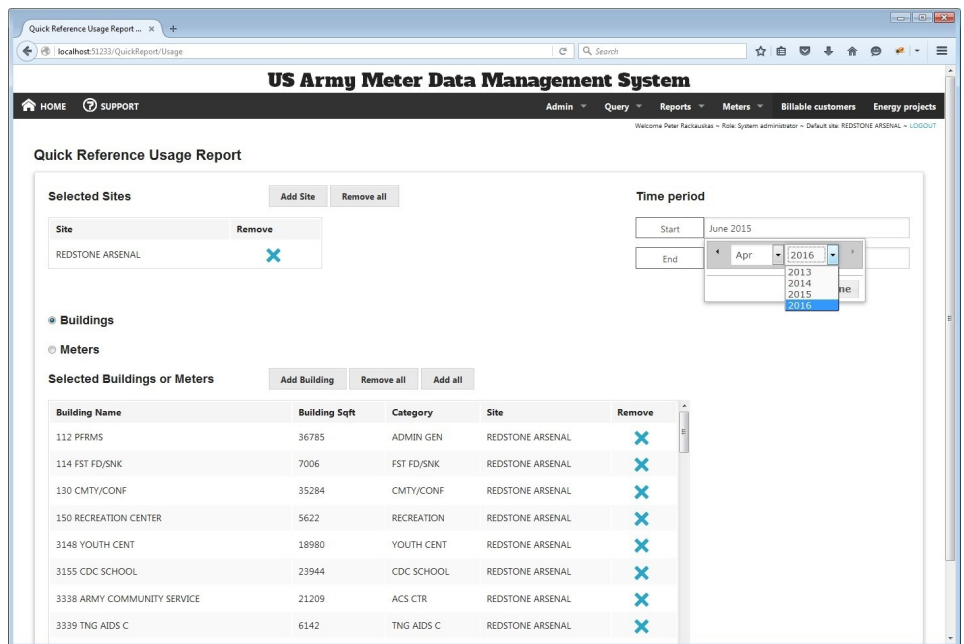
COTS EVALUATIONS BRING HOST OF SUGGESTIONS

The competitive field has now narrowed to three software finalists: Johnson Controls Inc. (JCI), Iconics and OSIsoft. The vendors have inspected the MDMS database structure and are preparing their cost proposals to implement their COTS software onto MDMS, conduct user training, and provide related services. The one-time implementation price will be added to the previously quoted price for the annual license subscription, a.k.a., software as a service, to determine the total cost for comparison purposes. Hardware implications and associated cost for DISA – DEEC to furnish and maintain are also determined for each for the COTS software finalists.

Fifteen Army Energy Managers who volunteered to test drive trial versions of the software are now evaluating each vendor's product. Feedback so far has been very positive. The user evaluation rankings, cybersecurity evaluation findings (by other experts) and total cost of ownership for each COTS will be presented to the Army leadership in time to enable an end of fiscal year award, should that decision be affirmative for the purchase.

One common attribute with the COTS software is that each is highly configurable to accommodate a variety of user needs and preferences. The downside: configuring the software is not so easy or straight forward for most Energy Managers. For this reason, we plan to have the winning COTS vendor configure their software to perform all of the priority functions as suggested by those Energy Managers who have so generously donated their time to this project. Users will have capability to customize their dashboards further after the initial launch of the COTS within MDMS. Heavy emphasis will be given to user training and video tutorials accessible via the COTS software dashboard hosted on the MDMS.

Suggestions for features to be pre-configured include the following:

- Automated monthly utility bills for tenants that have the look of local utility billing and require only initial set up by the Energy Manager
- Ability to consolidate billings for tenants occupying multiple facilities
- Report notification and delivery via email, e.g., be able to set up a regular report interval and have it emailed to a pre-determined distribution list that can be easily updated by the user
- Facilitate the adding of new meters (Editor's note: Incorporation of a GIS platform into MDMS as planned would enable automated incorporation of new meters that include latitude and longitude coordinates in the meter ID string.)
- Drill down capability for meter phase volts reporting. (Editor's note: This will require the capture of additional meter data points that are typically available from the meter but are not transmitted to the MDMS — a planned future initiative)
- Average Energy Use Intensity (EUI) for selected building use category codes. Users will be able to compare the average EUI performance of their buildings with the Army-wide average for the same building use category code. (Editor's note: This will require a usage reliability test similar to the one described in the *Quick Reference Monthly Usage Report* when calculating the average EUI).

MDMS DEEP DIVES PARTICIPATION

The MDMS Deep Dives program is nearing its goal of participation by ten (10) sites. Site visits are projected to take place during the summer 2016, with the goal to finish the site visits this year, said Bob Hennessee, MDMS team member. The first five (5) site visit installations are:

- U.S. Army Engineer Research and Development Center at Vicksburg, MS
- Aberdeen Proving Ground, Aberdeen, MD
- Joint Base Lewis-McChord near Seattle, WA
- Sierra Army Depot in California north of Carson City, NV
- Ft. Carson near Colorado Springs, CO

"Energy Managers are the front line of our Army energy reduction efforts," said Michael Ott, MDMS Program Manager. "It's good to see them come forward to explore how the MDMS can better serve their needs."

Deep Dives' purpose is to share information, document savings, and advance knowledge about how meter data can be used in energy reduction efforts. Energy Managers retain control of all information gathered, and information will be publicized only after prior approval from the Energy Manager and installation DPW.

The opportunity to volunteer is still open, and Energy Managers interested in becoming part of the Deep Dives program should indicate interest at usarmy.coe-huntsville.cehnc.mbx.armymeterhelp@mail.mil

BUILDING STRONG®

MDMS TIPS

Exporting MDMS Information to Excel

Most MDMS reports can be exported to Excel, including the new Quick Reference Monthly Usage Report.

Use the following procedure:
1. Launch the report, adding the proper criteria for the report, including the time period.
2. Click on Generate Meter Data Report.
3. Select the *Export to Excel* button on the left of the page.
4. You can now select Open to view the exported data table or select Save to save the data for later viewing.

Note that MDMS will assign a time stamp to the file name when it is exported. Further instructions are available in the MDMS User Manual available at the MDMS website: https://mdms.army.mil/

TECH NOTES

Naming Conventions for New Meters

With new meters being added each month, rules and conventions for properly naming meters has become a crucial issue. The following guidelines on naming meters should be noted by contractors and vendors deploying the meters and setting up local meter network systems.

The naming process begins at the site and facility level as new meters are installed. The installation vendor assigns a name that shows the meter location, meter number, and commodity type. Then the MDMS contractor assigns additional information to the name at the gateway and enterprise levels. The following example, from Watervliet Arsenal, shows the process.

Meter Installer's version of the meter name:
BLDG_36_Meter1_3A3AWMN_KWH

The meter naming process can be de-constructed to show how it follows a basic three-step naming convention.

- Begin with a meter building number (BLDG_36)

- Follow with a meter number (Meter1, Meter2, etc.)

- Follow with additional site info if needed (3A3AWMN)

- End with commodity type (KW, KWH, gas, water, etc.)

Building Number
BLDG_36, the building number shown should correspond to the HQIIS database in the Real Property Inventory (RPI). If it does not, the Enterprise applies a NULL value for the building, which negatively affects accurate reporting of meter data. New buildings should be registered with the Army HQIIS database, which may take a few months.

Meter Number
METER1_The next part of the name will be the word "METER" and a number. This allows for the ability to

assign multiple meters to a single building. The word ME-TER" should be followed up by a number.

Site specific discretionary information
In the previous example, 3A3AWMN is site-specific information placed as a label at the discretion of the site. Ideally this information is relatively short: 4 – 20 characters.

Commodity type
The third part of the name shows the commodity type, such as electrical, gas or water. In the foregoing example, the commodity type is "_KWH". The meter name must reflect the commodity type to be included in MDMS.

Use of Separators
Finally, the use of separators such as underscores (_), dashes (-), or periods (.) can be used in the meter name.

Final meter ID name after processing at the MDMS Enterprise
The MDMS team adds the site name and other required data field information so that the new meter can be properly recognized and processed within the system. Below is an example of the final version:

"Watervliet Arsenal","Watervliet Arse-nal","36","WVAR_BLDG_36_METER1_3A3AWMN","4/26/2016 9:30:00 AM","NetEnergySum","526679","kwh"

Future Initiative
Currently, the association of a new meter with the appropriate facility data records in the Real Property Inventory (RPI) keys on the site name and building number. A definitive match is not always assured. An installation may have two buildings with the same building number. After the MDMS incorporates a GIS platform as planned, future meter ID names may include latitude and longitude coordinates to facilitate meter–building association and eliminate potential building association errors.

BUILDING STRONG®