



MDMS UPDATE

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FROM THE PROGRAM MANAGER

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This calendar year has been a productive one for the Meter Data Management System (MDMS). On 4 December 2015 General Dynamics IT assumed operational control of the MDMS at its new secure server hosting location at DISA. Improvements to the MDMS included the Spring 2016 launch of the Quick Reference Usage Report (QRUR), a faster, more reliable energy/water usage report for metered facilities. We followed that with the new Energy Usage Intensity (EUI) by Category Code tool that allows users to list similar use buildings from highest to lowest EUI along with the median per-square foot energy usage for each category code and climate zone.

In this issue we are pleased to announce another MDMS improvement, the new Meter Status Dashboard that allows users to drill down to off-line meters to note the last received time stamped meter reading. Off-line meters are color coded according to how long each has been off-line. The new Meter Status Dashboard also includes a metric to show the consistency

of meter data reporting. Hopefully this will be a motivating metric for improving the reliability of the meter network.

MDMS users should know that the most important improvement to MDMS is the new database architecture that is planned for implementation at DISA. This new architecture is required to support all of the planned improvements to MDMS as described in previous newsletters. This will take DISA some time to complete so be patient. I will keep you updated.

Be on the look-out for an invite to the next training webinar to be held late January 2017. This will be a repeat of the training provided in the 1 December webinar but will also include navigating the new Meter Status Dashboard. Another training resource for training are the video tutorials that can be accessed within MDMS: see page 4 *Tech Tips*.

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

COMING: NEW METER STATUS DASHBOARD

A poster in the MDMS conference room states, “It’s not just about the data, it’s ALL about the data.” The MDMS team is duly motivated to capture and preserve incoming meter data but is mostly dependent upon others for the receipt of that data. We can offer a better tool for meter network O&M. To that end, the Meter Status Dashboard has been redesigned to quickly identify which meters on which buildings (or other metered assets) have lost their connection to the MDMS and to provide information to help troubleshoot the cause. Refer to the screen shot mock-ups on page 2 for more details.

But will the persons responsible for maintaining the meter network be responsive? That depends upon the level of motivation. For that MDMS has a strategy: HQDA visibility of a meter network reliability metric that rolls up from the individual meter level to the average for the installation, MACOM and HQDA. This reliability metric measures the consistency in meter data reporting over time. It starts with daily consistency, i.e., the percent of actual interval data

received in a day divided by the interval reporting frequency, e.g., 24 or 96 (15-minute readings). These daily consistency scores are then averaged for each month and year. Roll-ups average the consistency averages of all meters assigned to an organization. The new Meter Status Dashboard will show the current month and last 60 days consistency score to give credit to installations and sites that have improved their meter network reliability.

Outage duration is reflected in the meter reporting consistency metric in that the longer a meter stays off-line, the lower the consistency percentage. Users will be able to click on a site to drill down to all off-line buildings and meters to see how long meters have been off-line. A color coding scheme of red, yellow or green is used to indicate how long a meter has been off-line. This is a useful action prioritization tool to improve the reporting consistency metric. Requesting a help desk ticket to restore meter connectivity will provide another tickler for action. Again, it is all about the data. *(continued on page 2)*



MDMS UPDATE

COMING: NEW METER STATUS DASHBOARD (CONT. FROM PG. 1)

US Army Meter Data Management System

HOME SUPPORT Query Reports Meters Billable customers Energy projects

Meter status roll-up Meter status details Export status roll-up to Excel Go to Gateway/Smart Server Meters

Organization	All meters	Electric meters	Gas meters	Water meters	Metered buildings	Metered SF	Total meters assigned to buildings	Total meters assigned to site only	Most recent	EEDRS/M status	Last 30 Days Reporting Consistency	Last 60 Days Reporting Consistency
Gateway/Smart Server Meters												
HQDA	11500 of 11500 current	8000 of 8000 current	2000 of 2000 current	1500 of 1500	7000	20000000	11000	500			60%	60%
INCOM	10000 of 10000 current	6000 of 6000 current	2000 of 2000 current	500 of 500 current	1500	15000000	8500	1500			52%	70%
ATLANTIC REGION	5000 of 5000 current	2900 of 2900 current	2000 of 2000 current	60 of 60 current	1500	10000000	5000	500			37%	63%
ABERDEEN PROVING GROUND	200 of 200 current	200 of 200 current	0 of 0 current	0 of 0 current	200	1000000	200	0	10/19/2016 11:15:00 AM	MDMS EEDRS operati	90%	90%
ABERDEEN PROVING GROUND	200 of 200 current	200 of 200 current	0 of 0 current	0 of 0 current	200	1000000	200	0	10/19/2016 11:15:00 AM	MDMS EEDRS operati	90%	90%

Site level will now be selectable to transition to a new screen for building/meter drilldown

Meter reporting consistency is now shown for last 30 and 60 days

Notional – Not Real Data

US Army Meter Data Management System

HOME SUPPORT Query Reports Meters Billable customers Energy projects

Meter status details Export status roll-up to Excel Go to UP Meters

Site: ABERDEEN PROVING GROUND

Building	Meter	Commodity	Most recent	Last 30 Days Reporting Consistency	Last 60 Days Reporting Consistency
500 HATCHER ROAD	APGM_ES00.WEM-01	Electricity	08/02/2016 11:15:00 AM	25%	50%
600 AC MAINT HGR	APGM_E600.WEM-01	Electricity	10/16/2016 09:15:00 AM	30%	80%
700 RODMAN LAB	APGM_E700.WEM-01	Electricity	10/15/2016 08:00:00 AM	70%	60%
800 BERNARD LAB	APGM_E800.WEM-01	Electricity	10/20/2016 03:00:00 PM	30%	95%

Sortable column for Most recent

Most recent color scheme thresholds:
 Green: Last Reported ≤ 36 hours
 Yellow: Last Reported > 36 hours but < 1 week
 Red: Last Reported > 1 week
 Worst is First: The meter that has not reported for the longest time is on top of the list to give priority.

Notional – Not Real Data



DECEMBER TRAINING WEBINAR

More than 20 Energy Managers and Resource Efficiency Managers participated in the MDMS Training Webinar held on 1 December 2016. The webinar demonstrated the new MDMS tools: Quick Reference Usage Report (QRUR) and the Energy Usage Intensity (EUI) by Category Code report with detailed explanations on how MDMS calculates the values shown in those reports. Understanding how MDMS works and how network outages and other external factors can affect meter data reports is critical for proper interpretation of all meter data reports.



The demonstrations prompted some excellent feedback, particularly for improving disclosure of relevant contextual information about the metered buildings. Examples included identifying which buildings use meter data for both

electricity and natural gas versus only electricity to calculate their EUI. GDIT plans to add radio buttons to the EUI report for selecting buildings with electric meters only or buildings with both electric and natural gas meters. This will prevent facilities metered for only electricity from being included for comparison with buildings that combine electricity and natural gas usage for their EUI calculation.

One participant pointed out that some buildings that use natural gas are not metered for gas. A future functionality called “tagging” will give Energy Managers the ability to input and save text about a metered facility that will appear each time that building is selected for a report. The “tags” can be used to query/filter or generate service desk tickets such as requests for installing and/or connecting gas meters to the MDMS.

The more easily accommodated requests included adding the two meter readings used to calculate usage and their respective date/time stamps to the QRUR, showing water usage in Kgal (thousands of gallons) instead of gallons, and showing the conversion factors used to convert both electricity and natural gas usage into KBtu.

The training offered tips on how to detect faulty meter data and identify the likely root causes. An example is when the QRUR shows a building having zero usage for 100% of the month. Unless the utility has been shut off to the building for the entire month, the apparent contradiction of zero usage and 100% monthly capture is indicative of a loss of network connection somewhere between the meter and the EEDRS or UMCS server. If connection was lost between the EEDRS/UMCS and MDMS gateway, the QRUR will

show the building to be “Offline”.

The webinar concluded with a briefing on plans for the following future improvements to the MDMS:

- Re-designed Meter Status Dashboard
- Meter Data Reporting Consistency Metric
- Aggregated Usage Report
- **Re-designed Data Staging and Data Warehouse**
- Value Estimating and Editing (VEE)
- Renewable Energy (RE) Meter Reports
- Master Utility Meter Data Reports
- Enterprise Level Dashboard
- User-defined Email Alerting Capability
- Metered Facility Tagging Capability
- Flexible Query Capability
- Geographical Information System (GIS) Platform for User Interface

Note that the start of improvements listed after the fourth (bold faced) bullet await completion of the new database architecture within the DISA hosting environment. A new support agreement is currently being negotiated between the USACE and DISA. Once the new agreement is in place, implementation of the new architecture will commence. Completion will take several months but the new end state will be worth the wait. The current MDMS data base structure circa 2008 is long overdue for a technology refresh. The new MDMS will be more capable

and sustainable; enabling faster delivery of new functions and features including potential COTS software products.



Future training webinars are

planned for January, March, May, July, and September 2017. All webinars will be conducted via the Army's Defense Collaboration Services (DCS) system. The MDMS Help Desk will send out meeting invites to all registered MDMS users. Separate sessions for Europe and Far East will be scheduled for times better suited to their time zones. Feel free to forward the webinar invitation to others at your installation or Command.

If you would like to participate but are not a registered MDMS user, log onto mdms.army.mil and click on the link, “MDMS Access Request (CAC Required)” Fill out the short form request. We will take care of the rest.



2016 ENERGY SUMMIT REPORT

MDMS was on display at the 2016 Energy Summit in Huntsville, Alabama held November 15-18. The MDMS contractor General Dynamics Information Technology showcased a demonstration of how meter data can be used to prioritize facilities for action, validate energy project effectiveness and motivate others to do their part to conserve energy.

This year's Energy Summit conference sponsored by the Energy Huntsville Initiative, drew more than 300 participants including Resource Efficiency Managers (REM) from numerous Army installations. A REM workshop hosted by the U.S. Army Engineering and Support Center, Huntsville immediately followed the Energy Summit.



Each REM was provided a demonstration of MDMS using near real time data from their assigned installation. Some were surprised that their installation's meter data was now available in the MDMS. The MDMS demonstrations had a positive impact. The REMs saw how the Quick Reference Usage Report maximizes the capture of the monthly energy/water usage and reports the percent of

capture that usage. REMs can then spend their time more productively by analyzing daily and hourly times of use by buildings having high percentage of monthly usage capture versus buildings with low percentage of monthly capture that lack the required granularity of meter data. The Energy Use by Category Code Report's ranking of buildings from

least to most energy efficient prompted discussion as to the potential reasons why certain buildings were shown as worst in class for their comparison group—validation that the report achieves its intended purpose.

Incoming Army Metering Program (AMP) Manager Raul Alonso, new to the Army Metering Program, said the MDMS exhibit helped him get an

overview of how the system works. "My visit to the booth was very helpful. The demonstrations provided good interaction, allowing me a big picture view of the maturity of the MDMS." Former Fort Hood Energy Manager Africa Welch-Castle, now with the Army Corps of Engineers Huntsville Center, offered her perspective: "I like the direction the MDMS is heading. I can see its potential."

TECH TIPS—MDMS VIDEO TUTORIALS

MDMS users may not be aware of the availability of MDMS tutorials. Access to the tutorials is easy: simply click the tutorial icon on the MDMS home page. When asked for your CAC credentials, select the one pertaining to your DoD email credential (different from the one you select for accessing MDMS). Entering your pin will take you to the Army Meter Service Desk (AMSD) website. You will see a list of MDMS tutorials on the left side of the page. Simply select the tutorial you want, click the Play button, then maximize your screen size.

MDMS Access and Login

Energy Managers and other users should consider this the starting point. This is the end user portal to Frequently Asked Questions, Lessons Learned, a Glossary, and MDMS Points of Contact. Back issues of the *MDMS Update* newsletter are also available here, as is a list of cyber security contacts.

MDMS Overview

Having gained access to MDMS, users can access this tutorial to learn more about the MDMS Dashboard and Menu bar. New messages relevant to MDMS users are displayed on the left. The tutorial provides explanations of the MDMS Query, Reports, Meters, Billable Customers, and Energy Projects dropdown menus.

AMSD Website Tutorial

This tutorial provides further in depth instructions on the use of the Army Meter Service Desk, including instructions

on how to use generate service tickets, and access to the AMSD Discussion Board.

MDMS Quick Reference Usage Report

One of the newest MDMS reports, the *Quick Reference Usage Report* provides a way for Energy Managers to generate fast and reliable monthly usage reports on electricity, natural gas, and water usage. The QRUR is available as an option on the *Reports* dropdown.

Energy Use Intensity Report

Energy Use Intensity allows MDMS end users to compare energy intensity among major commands, regions, sites, installations, buildings or meters. The tutorial describes how this report can be accessed from the MDMS home page, by choosing either the *Intensity* tile or the *Intensity* option at the *Reports* dropdown.

Troubleshooting Connectivity

This tutorial describes the first step in checking meter connectivity. At the MDMS homepage, choose either the *Meter Status* tile or the *Meter Status Roll-up* option at the *Meters* dropdown. Users can check connectivity at the HQDA, Major Commands, Regions or Installation level. Users can check connectivity for electric, gas, or water meters.

Export MDMS Reports to Excel

For those wanting to export data to Excel, this tutorial describes how to customize reports by time period, facilities, meters, and how to generate the actual report.