



# MDMS UPDATE

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## FROM THE PROGRAM MANAGER

By Michael Ott, MDMS Program Manager, USACE—Huntsville Center

Welcome to our June - July 2018 issue of the *MDMS Update*, designed to keep you informed on the growth and latest developments of the Meter Data Management System and the Army Metering Program.

First up is an article on the successful coordination efforts across the program to upgrade several sites' EEDRS servers, get them back online, and restore meters reporting to MDMS. Over 260 meters were restored.

The MDMS project team has been working with several installations on using load profiles to determine where there are system overrides in place for large buildings that are high on the Energy Use Intensity (EUI) scale. The exercise is identifying specific areas of operational improvements. Read about this effort on page 2.

The MDMS Upgrade Update is on page 3. The processing of historical meter data

within the new DISA server architecture that supports the MDMS upgrade continues. Beta testing will be conducted at five initial installations.

On page 4, we provide an update on the current status of the regionalization effort to migrate to 12 main regions per NETCOM guidance. To date, 14 MDMS servers have been returned, with 8 more that are still on site but ready to be returned. Additional sites have been added to the plan and several have already been regionalized. This story is detailed with a map showing the updated MDMS regionalization plan.

As always, our mission is to improve the MDMS experience for end users. Your input is valuable, and we welcome your feedback at:

[usarmy.coe-huntsville.cehnc.mbx.armymeterhelp@mail.mil](mailto:usarmy.coe-huntsville.cehnc.mbx.armymeterhelp@mail.mil)



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### Inside this issue:

<i>From the Program Manager</i>	1
<i>Meters Back Online</i>	1
<i>Energy Managers using MDMS for Building Load Profiles</i>	2
<i>MDMS Upgrade Update</i>	3
<i>Update on Regionalization</i>	4

## METERS BACK ONLINE

The MDMS team has been working closely with local personnel at several sites and the corresponding Enterprise Energy Data Reporting System (EEDRS) vendors to get the EEDRS servers upgraded and back online. These efforts resulted in bringing hundreds of meters back online and thus reporting to MDMS.

**Fort Shafter and Schofield Barracks.** Fort Shafter, located in Honolulu, Hawaii and Schofield Barracks, located 17 miles north of Honolulu, EEDRS servers were upgraded and back online the week of 25 June 2018. The EEDRS and MDMS support personnel were on site working together to get approximately 110 meters reporting to MDMS again.

**Fort Sill and Blue Grass Army Depot.** Coordination efforts for the EEDRS server upgrades continue at both Fort Sill, located north of Lawton, Oklahoma, and Blue Grass Army Depot, located southeast of Lexington and Richmond, Kentucky. The MDMS gateway team coordinated with the EEDRS vendors and local database administrators to get 154 meters back online and reporting to MDMS from both of these sites.

These activities are just another example of joint efforts of many to get meter data reporting to the MDMS and improving the meter network reliability. Once again, a great collaborative team effort for the Army Metering Program!



BUILDING STRONG®



## MDMS UPDATE

# ENERGY MANAGERS USING MDMS FOR BUILDING LOAD PROFILES

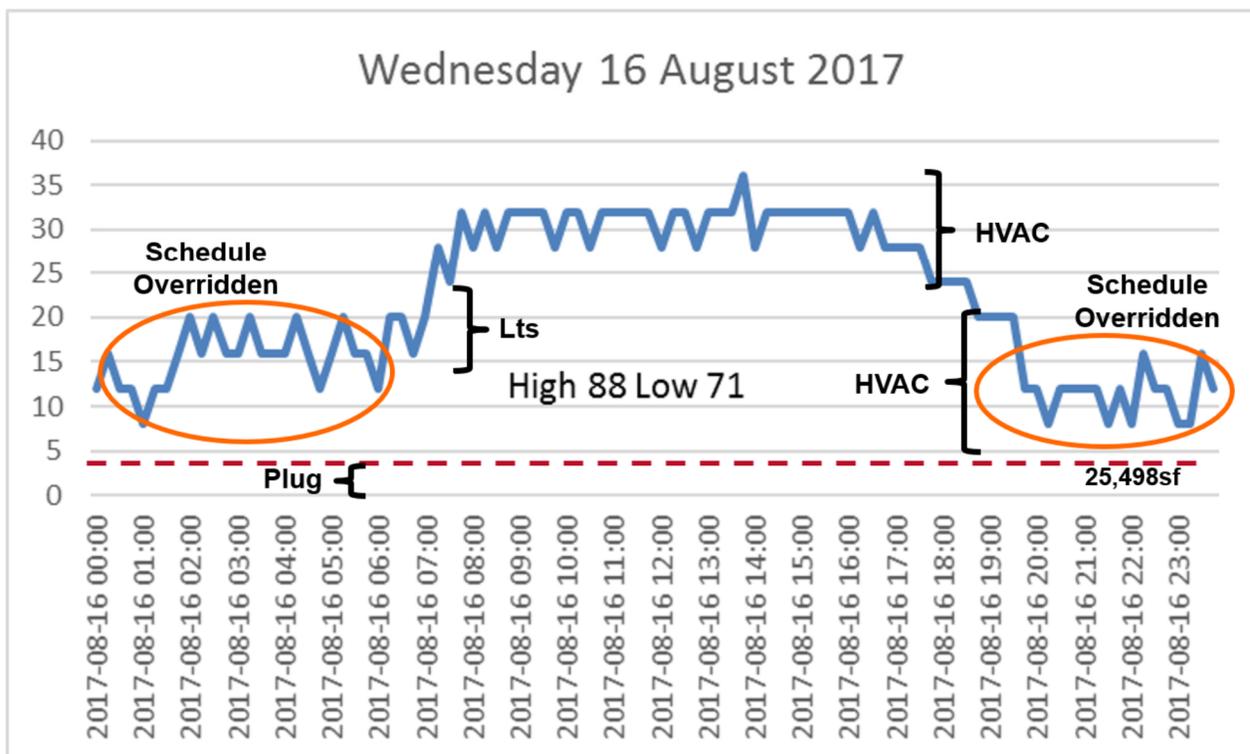
The MDMS project team has been working with several installations on how to use load profiles to determine if there are system overrides in place for large buildings that are high on the Energy Use Intensity (EUI) scale. The exercise is identifying specific areas of operational improvements. The coordination efforts have focused on the following phases in the energy management Monitoring Commissioning (MCx) process\*\*:

1. Background
2. Determining baseline
3. Establish Flags on Baselines for first level of overrides
4. Establish Internal Process to resolve overrides
5. Reset Design baseline
6. Perform M&V at each level to validate the savings
7. Evaluate 2nd level of control sequences (4-20)
8. Establish Flags on Baselines for second level of overrides
9. Determine the most effective Internal Process to resolve second level
10. Reset Design baseline
11. Perform M&V at each level to validate the savings
12. Determine EUI for each system component
13. Develop Base EUI and determine what systems across buildings need to be upgraded
14. Develop projects for the low cost and high payback systems
15. Implement low cost items
16. Compare building EUI to like buildings – determine the differences
17. Develop major project program
18. Implement major projects

19. Perform M&V at each level to validate the savings  
 \*\*Phases are a generic outline used only as a guide and not meant as prescriptive or directive for your energy management approach.

What the team has done for each building is find the appropriate extreme days for evaluation. The MDMS team assessed the extreme days based on historical temperatures from [www.wunderground.com](http://www.wunderground.com). The team used the Meter Data report option in MDMS to export the meter data for the targeted buildings' most recent year of meter readings to Excel and then calculate usage and instantaneous peak for the target days.

By selecting the 15-min peak values for the entire 24-hour period on the selected dates, the team could generate a 2-D line graph showing the load profile of the building. The y-axis of graph shows facility 15-min peaks. And the graph's x-axis shows the dates and times as well. The creation of the building load profiles has enabled opportunities to identify efficiency improvements, because the analysis shows when systems and/or equipment are operating during occupied and unoccupied hours. Upon scrutiny of the profiles, the team could benchmark facility plug loads, lights and HVAC energy use. Our initial evaluation of 50 facilities has found that the vast majority of single shift operations were overridden. If these overrides can be corrected as anticipated by the installation, the savings will be over 25% of the building energy usage. Below is a load profile example of one the buildings analyzed during these activities.



**MDMS UPDATE**

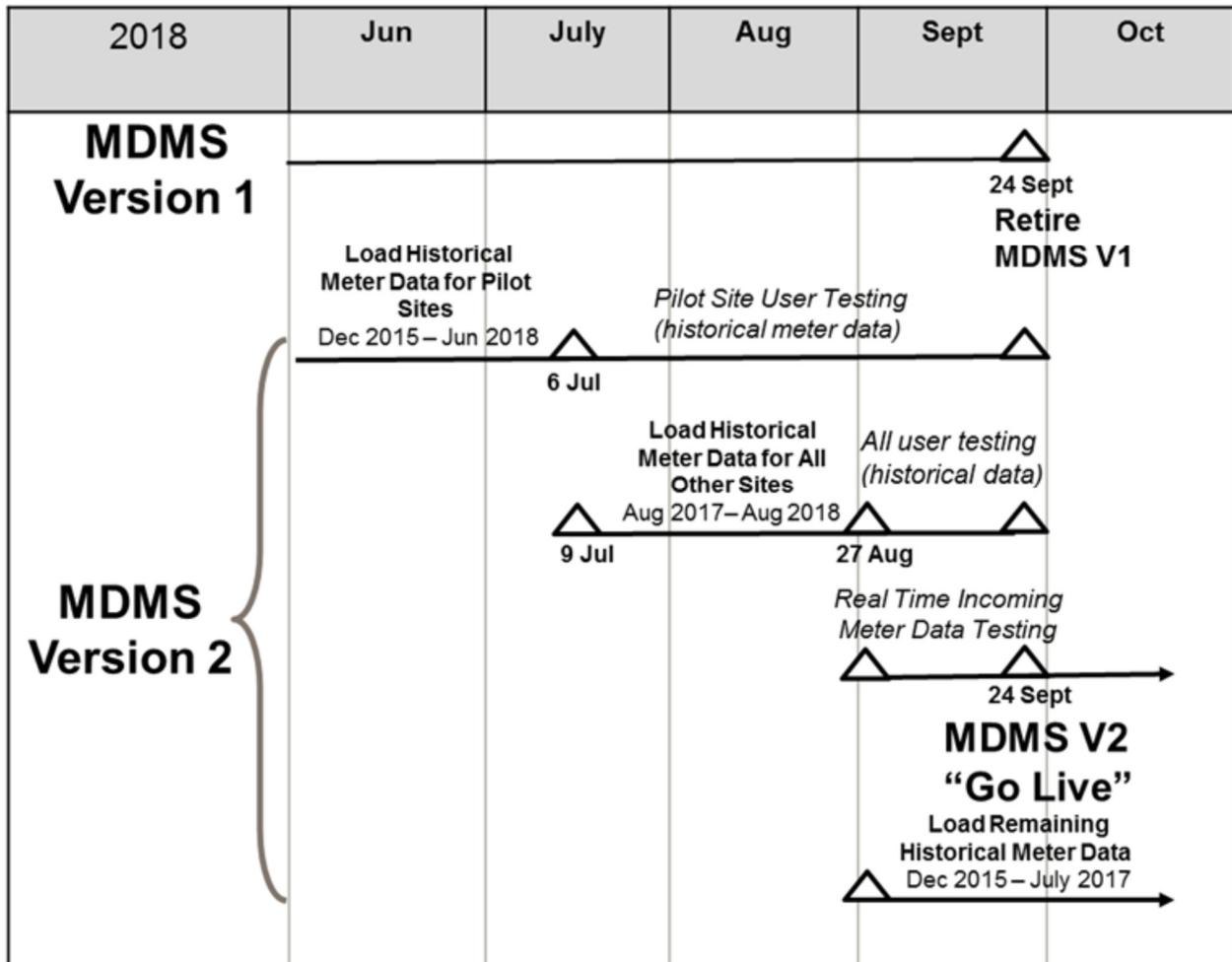
**MDMS UPGRADE UPDATE**

As explained in the April – May 2018 newsletter, the processing of historical meter data within the new DISA server architecture that supports the new MDMS software continues. Forts Carson, Bliss, Bragg, Polk and Redstone Arsenal will be among the first installations to have historical meter data within the new MDMS software for testing to include live (real-time) meter data. The plan is to beta test the upgraded software using data from those initial installations while continuing to load/process the rest of the Army’s historical meter data. In order to minimize the wait time for Army-wide user access to the upgraded MDMS, the MDMS team will initially process only the previous 12 months of historical meter data before going live with the new MDMS software. Afterwards, the MDMS team will continue to add historical meter data back to December 2015.

compared against that norm, the algorithm for which is continually updated to reflect the most recent usage calculations determined to be valid. One years’ worth of historical meter data is more than sufficient to support detection and replacement of unreliable meter data.

The current plan is depicted below and is predicated on successful beta testing of the pilot installations identified above. Training webinars on the upgraded MDMS software are still being planned for August - September. Email notifications of dates/times and log-in information will be sent to all current MDMS users. If you are not a current user, log into <https://mdms.army.mil/> and request an account (requires CAC) by clicking the appropriate link on the MDMS home page. This will also add you the distribution for webinar training offerings.

Why historical meter data is important is because the new MDMS uses the historical meter data as the basis for its algorithm to detect and replace unreliable reported usage with estimated usage. The historical usage norm is determined for each meter’s smallest reporting interval, e.g., 15-minute. Each new reported increment of usage is



**MDMS UPDATE**

**UPDATE ON REGIONALIZATION EFFORTS**

EEDRS servers at sub-sites continue to be regionalized to the 12 main regions per NETCOM guidance. 14 MDMS servers have been returned, with 8 more that are still on site but ready to be returned. Recall from earlier updates, while these activities can be disruptive, the end state offers improved reliability of the Army's meter network.

The MDMS team continues to work with NETCOM engineers as well as Regional Cyber Centers (RCC), Joint Regional Security Stacks (JRSS) and local NEC personnel to make the required changes to Ports and Protocols Services (PPS) to gain remote access to existing MDMS servers and work toward regionalizing sub-sites into a single location for each region. Additional sites have been added to the plan and several have already been regionalized. The map below shows the updated MDMS regionalization plan.

Also recall that the sites being regionalized are going to be brought into compliance with the upgrade to Microsoft 2012 R2. They will also have bigger servers with more storage and memory than existing servers. This will provide better operability as it consolidates sites, leaving

fewer MDMS servers to maintain.

To date, there have been 47 sites where PPS activities were completed, with only 8 of those sites left to migrate to the new EEDRS servers. The sites that have completed their regionalization and returned their MDMS servers since our last story:

- Adelphi Laboratory Center
- Carlisle Barracks
- Dugway Proving Ground
- Fort Detrick
- Fort Hunter Liggett
- Fort Sill

The MDMS team has 9 PPS activities remaining. So, the MDMS team pushes on!

