MDMS *UPDATE*

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FROM THE PROGRAM MANAGER

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

Welcome to our December 2017 – January 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.

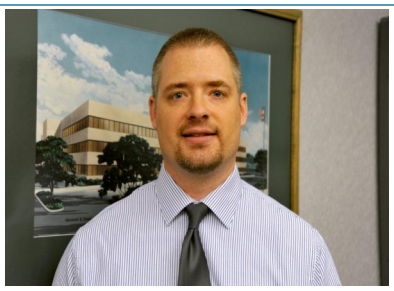
Up first and foremost is *The Future of MDMS—Role-based Dashboards* regarding the new dashboards coming in spring 2018 with MDMS V2. As we did with the previous newsletter's article on the upcoming tagging enhancements, we are once again asking for you to review the planned functionality and provide your feedback.

The new Aggregated Usage Report is now available within the MDMS. Turn to page 3 for details about this report and how the daily and monthly usage percentages are calculated.

The MDMS enterprise continues to grow, and it is our pleasure to welcome the newest reporting installation: Guam National Guard. The article also provides information on how to ensure meters are correctly associated to their corresponding building.

And last, but certainly not least, *Security System Updates Affecting Sites' Ability to Report to MDMS* explains the process and importance of patch management. Also discussed is what happens when non-approved host-based security updates are applied to the EEDRS.

As always, our mission is to improve the MDMS experience for end users. Your input is valuable, and we welcome your feedback at: usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil



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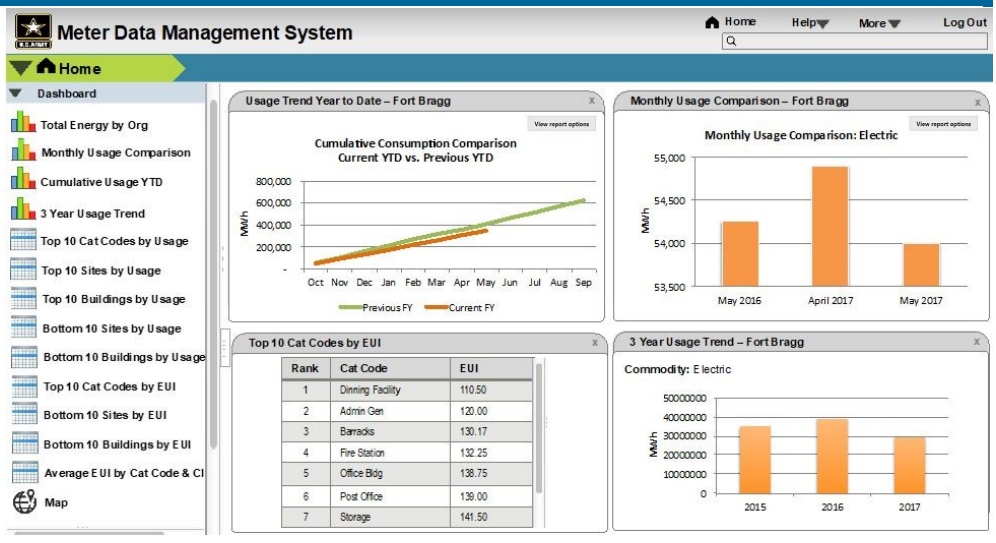
THE FUTURE OF MDMS—ROLE-BASED DASHBOARDS

One of the most anticipated MDMS V2 enhancements is the role-based dashboards showing up-to-date energy performance metrics according to the Energy Manager's (EMs) area of interest/responsibility. The rollout of MDMS V2 will align with the Army Headquarters' direction for role-based dashboards, configurable by users at all levels of the Army organization structure, while modernizing the user experience through navigational and organizational enhancements. The dashboard will provide a new framework organized by functional area and will be auto-populated and updated daily with the latest information for users.



Users will have the ability to show the Army's average energy use intensity by facility category code and climate zone, as well as the amount of variation and the trending profile for each for site, installation, region, command and HQDA. The dashboard will display Army-wide (i.e., HQDA) energy/water usage and usage intensity by facility category code, accommodate "click-on" drill down to access more information about a posted statistic, and incorporate expanded display options selectable by the user for the data reported (i.e., Bar, Circle, Line Charts, etc.). There are three main use cases envisioned: Enterprise (HQDA, MACOM, Region) level, installation/site level, and building *(cont. pg. 2)*

THE FUTURE OF MDMS—ROLE-BASED DASHBOARDS (CONT. FROM PG. 1)

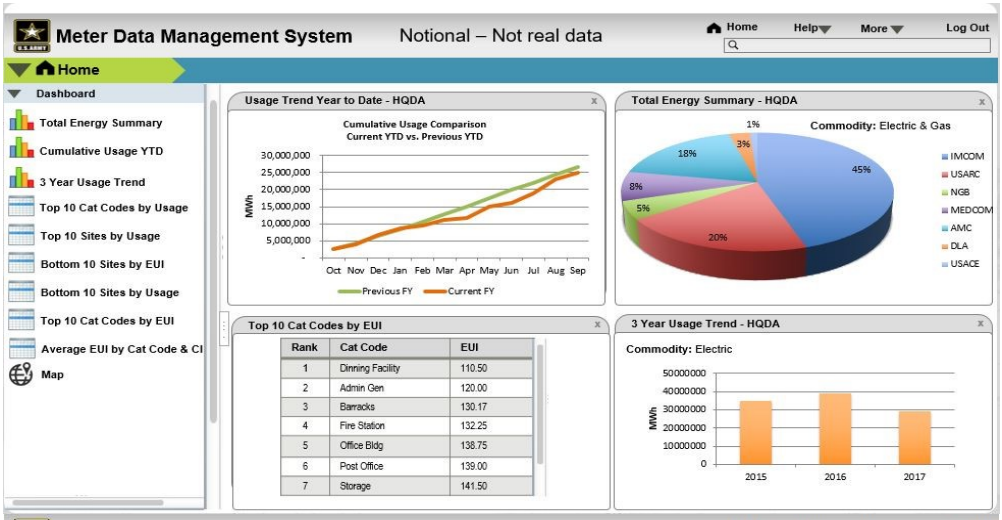
level displays. The mockups provided in this article offer a preview of several different use cases. Note that the information depicted is notional; for illustration purposes as to the types of reports planned for dashboard display. Your comments on this plan are requested. Please send them to: usarmy.coehuntsville.cehnc.mbx.armymeterhelp@mail.mil

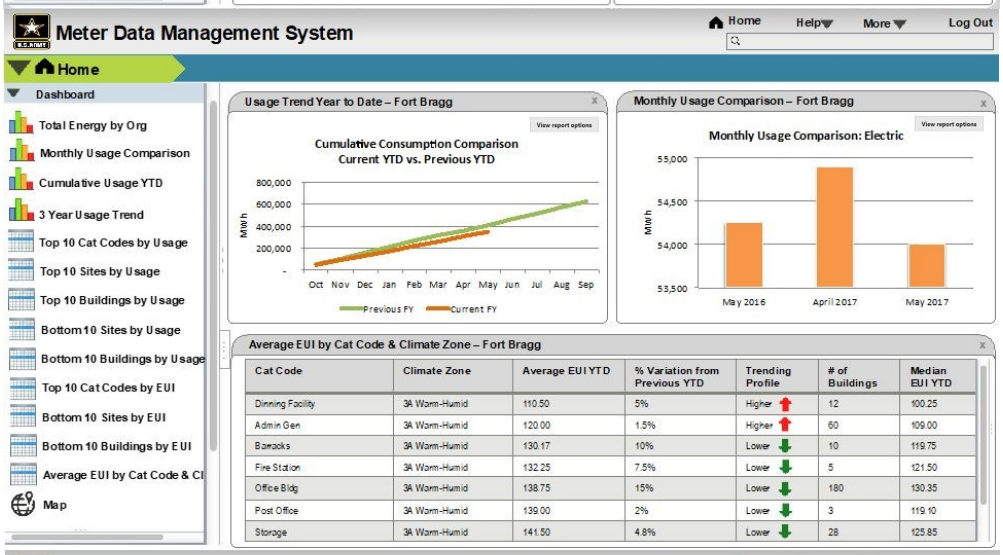
HQDA/Enterprise level. As expected, and shown top right, the HQDA dashboard is focused entirely on cumulative energy/water use trending across the Army. The HQDA dashboard provides easy organizational filtering to produce MACOM and Region level dashboards, essentially a subset of the HQDA dashboard. The most granular data presented would be the Army's median energy use intensity (EUI) ranked for all facility category codes—something each installation EM should take note of when monitoring their installation's facility EUI.

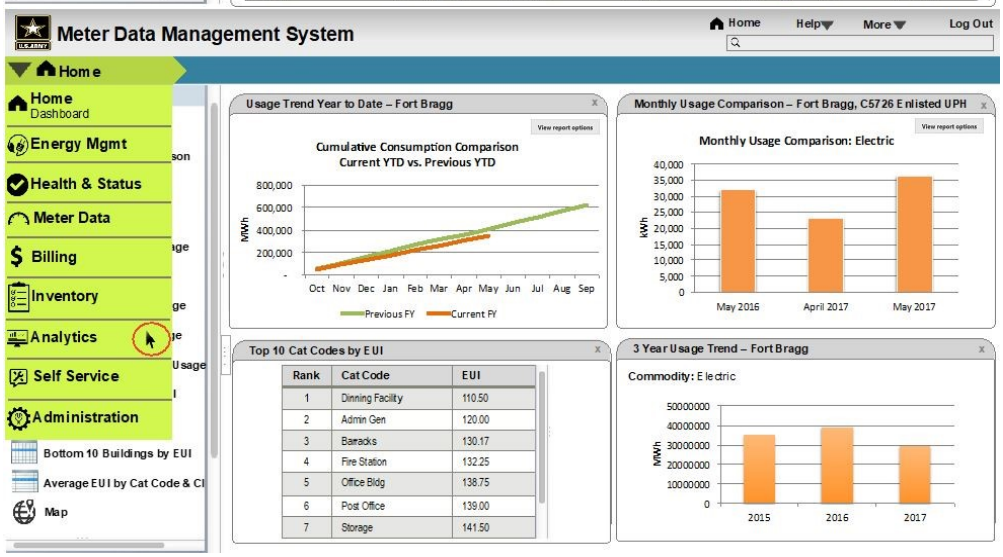
Installation/site dashboards (shown middle right) can show the respective top 10 energy consuming facilities, their top 10 with respect to energy use intensity, worst trending facilities with respect to same time last year, etc., in addition to overall (cumulative) usage trending. The primary purpose of this birds-eye view dashboard is to prioritize facilities for investigation and action. A secondary purpose is to ensure that previously implemented energy/water conservation measures continue their effectiveness and are not being offset by other recently arising factors.

Building dashboards will provide building-specific energy data, with the ability to display multiple key buildings simultaneously on the users dashboard auto-populated for convenience if saved to dashboard.

EMs and Army leaders can easily create more customized reports by dragging and dropping pre-canned views into the field selected. The remaining function-specific reporting feature offers tab-based viewing, which will enable toggling between multiple reports. A navigational panel (shown bottom right) will group similar report options based on specific functional tasks for EMs. Also included will be a *(cont. pg. 4)*







MDMS UPDATE

AGGREGATED USAGE REPORT NOW AVAILABLE

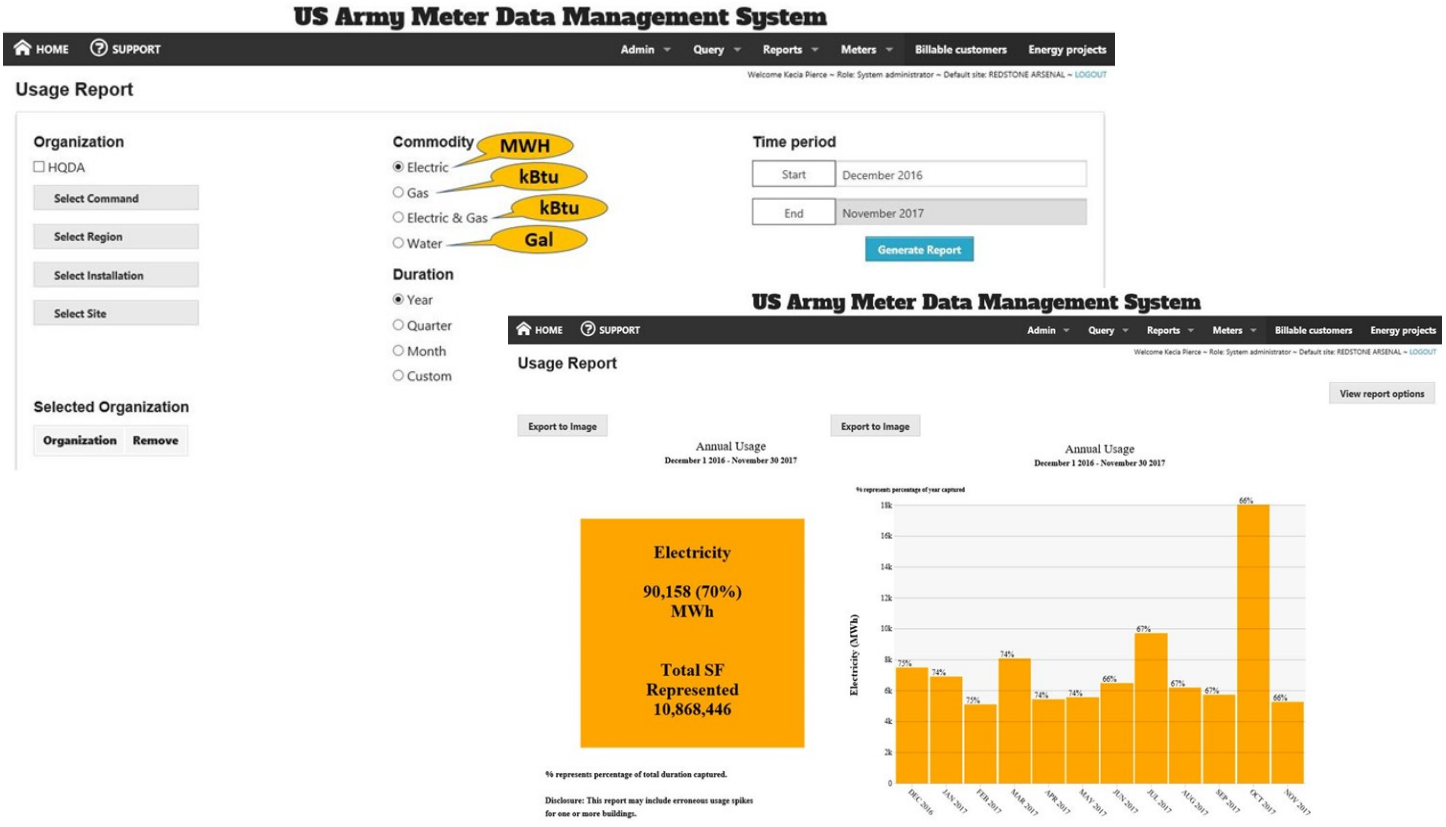
The new Aggregated Usage Report is now available under the “Reports” toolbar. This report provides Energy Managers (EMs) with the capability to generate the total usage per commodity for all sites, installations, regions, commands and HQDA by month, quarter or year. EMs can produce usage reports for electric, gas, electric & gas, and water. The report displays the total usage both numerically and graphically. Graphically the report presents total usage per month for yearly and quarterly reports, and per day for monthly reports. The report shows the percent of duration captured for each data point (i.e. each month or day that is graphically displayed), as well as the aggregated total percent of duration captured. EMs may export the results of the report to an image for inclusion in additional reports and briefings.

Usage is calculated at the individual meter level

- Calculation: Daily percent (%)
  - Difference in time stamped readings at midnight of the day and midnight of succeeding day.
  - If meter was online at both of those times, usage is reported as 100%.
  - If meter was offline at midnight on the current day, the algorithm will search for time stamped readings at hourly increments until a reading is found.
  - The same sequence is used for the end of the day, but in reverse order.
  - If no whole hour increments are found, the report will report 0%.
  - For aggregation, the percentage is the average of the percentages.
- Calculation: Monthly percent (%)
  - Difference in time stamped readings at midnight on the 1st day of the month and midnight on the 1st day of the succeeding month.
  - If the meter was online to MDMS at both of those times, usage is reported as 100% of the month measured.
  - If the meter was offline at midnight on the 1st day of the month, the algorithm will search for a time stamped meter reading at midnight on each succeeding day until a midnight meter reading is found.
  - If no whole day increments are found, 0% will be reported

Offline meters will be included in the usage calculation (i.e., derogating the % of duration captured).

****Note: The report may have erroneous usage spikes that distort the total usage reported. Usage is calculated from raw meter readings provided by installations. MDMS subtracts the first meter reading from the last meter reading. This calculation is susceptible to erroneous spikes during the month. The upcoming MDMS V2 will resolve these through data quality algorithms.*



THE FUTURE OF MDMS—ROLE-BASED DASHBOARDS (CONT. FROM PG. 2)

user-configurable, home role-based dashboard that will save the user's configuration preferences and provide multiple modules consisting of a combination of graphs, tabular data and GIS mapping. Additional capabilities will be provided for enterprise to building level reporting, as outlined below:

- Monthly usage comparison comparing last month, previous month and last month of last year for all levels of the Army organization structure--HQDA down to the building level.
- Usage trend year-to-date comparing cumulative usage by commodity this FY YTD vs. last FY YTD for all levels of the Army organization structure.
- Two entity usage comparison with parallel bar graphs by commodity by day, month or year for all levels of the Army organization structure, where the entities are defined as buildings, sites, installations, regions or commands.
- Top 10 sites by usage (lowest energy consumed) YTD or MTD by commodity for HQDA, commands and regions.
- Bottom 10 sites by usage (highest energy consumed) YTD or MTD by commodity for HQDA, commands and regions.
- Top 10 buildings by usage (lowest energy consumed) YTD or MTD by commodity for site selected.
- Bottom 10 buildings by usage (highest energy consumed) YTD or MTD by commodity for site selected.
- Top 10 buildings by EUI (lowest energy consumed) YTD or MTD by commodity for site selected.
- Bottom 10 buildings by EUI (highest energy consumed) YTD or MTD by commodity for site selected.
- Top 10 category codes by total usage (lowest energy consumed) YTD or MTD by commodity for site selected.
- Bottom 10 category codes by total usage (highest energy consumed) YTD or MTD by commodity for site selected.
- Top 10 sites by EUI (lowest energy intensity) YTD or MTD for HQDA, commands and regions.
- Bottom 10 sites by EUI (highest energy consumed) YTD or MTD for HQDA, commands and regions.
- Top 10 category codes by average EUI (lowest energy intensity) YTD or MTD for HQDA, commands, regions, installations and sites.
- Bottom 10 category codes by average EUI (highest energy consumed) YTD or MTD for HQDA, commands, regions, installations and sites.
- Pie chart of total usage YTD, selectable by commodity, distributed across the Army commands, and clickable for drill-down to a particular command. Upon command-level drill-down, display distribution of regions across that command, and again clickable to further drill-down to a particular region, which then displays distribution of installations/sites across that region. ****Note: National Guard Bureau would not have drill-down to site distribution, as it would not be readable in a pie chart due to the number of sites that would be displayed.*

SECURITY SYSTEM UPDATES AFFECTING SITES' ABILITY TO REPORT TO MDMS

It has been raised to the MDMS team's attention that some of the Host-Based Security System (HBSS) updates have introduced non-approved patches that are breaking the meter's ability to report to MDMS. It appears that the patch blocks the two ports that are needed to collect the data from the meter. This specific issue seems to be isolated to the iNetSupervisor EEDRS solution, where it reacts badly when the HBSS updates are applied. In these cases, the EEDRS servers are getting installed with all patch updates, rather than just the approved patches, and it is breaking the EEDRS server's ability to collect meter data. Unfortunately, in this case, there is no way to rollback or restore from a backup. The only solution at this point is to completely rebuild the EEDRS server. Additional information on this issue can be found in the *AMP Lifecycle Management and Lessons Learned Whitepaper* that is maintained on the EEDRS Portal. Another source is the *ARCYBER SAR 2017 -410 SAFE UPGRADE PATH FOR HBSS ANNEX T*, which provides NETCOM's direction on how to deploy HBSS to deployed systems.

Per the EEDRS patch management strategy policy, when new EEDRS servers join the network domain, they should be placed in what's called "isolated organizational units" where they don't automatically inherit all patch updates. SCCM pushes should be scheduled for the EEDRS OU and limited to only the patches approved. Patching can occur 1 week after patches are received to allow time for the AMP to test patches for compatibility and verify the patch addresses the ACAS scan policy.

For additional information regarding the full process of site managed patch management policies, please contact your local Network Enterprise Center (NEC) (or local network owner) and/or the USACE HNC AMP. The list of the latest approved EEDRS patches and baselines, as well as documents vital to the sustainment and management of the EEDRS may be found at: https://army.deps.mil/NETCOM/EEDRS/default.aspx

MDMS UPDATE

GUAM NATIONAL GUARD ONLINE

Guam National Guard is now online in MDMS with 38 meters reporting. There are 25 electric meters and 13 water meters currently online. While this was a successful installation, only one of the meters is assigned to the building in MDMS. This is due to the real property data not being in the Headquarters Installation Information System (HQIIS) – the Army's system of record for real property asset data. Energy Managers (EMs) should contact their real property point-of-contact to get the buildings updated in HQIIS. Once this is done, EMs can log a support ticket with the Army Meter Service Desk (AMSD) to get the meters associated to their corresponding building. For those installations that are adding new meters and the buildings already exist in HQIIS, let the MDMS team know so that we can associate the meter to the correct building. We're here to help. Welcome Guam!