



MDMS UPDATE

~ METER DATA MANAGEMENT SYSTEM ~



US Army Corps of Engineers®

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FROM THE PROGRAM MANAGER

Welcome to our August - September 2022 issue of the *Meter Data Management System Update (MDMS)*, designed to keep you informed on the growth and latest developments of the Meter Data Management System and the Army Metering Program.

Our first article discusses the recent progress on external meter data integration into MDMS. Since our last update on the topic (Dec. 2021—Jan. 2022), we have welcomed two sites and are currently in the process of working with several more.

The second article provides an update on training courses and the numbers of personnel and installations trained over the last three years. It also includes some specific success briefs where the MDMS

Outreach Team worked with numerous sites on different troubleshooting sessions. Also highlighted in this article is our request for champions of Energy Management to participate in our Trail of Champions program. We are actively seeking sites to be champions to engage in active, earnest dialog about using MDMS to its fullest potential to analyze and assess what is happening in the buildings on site.

As always, our mission is to improve the MDMS experience for end users. Your input is valuable, and we welcome your feedback via the Army Meter Service Desk (AMSD) at: cehnc-army-meter-help@usace.army.mil



From the Program Manager 1

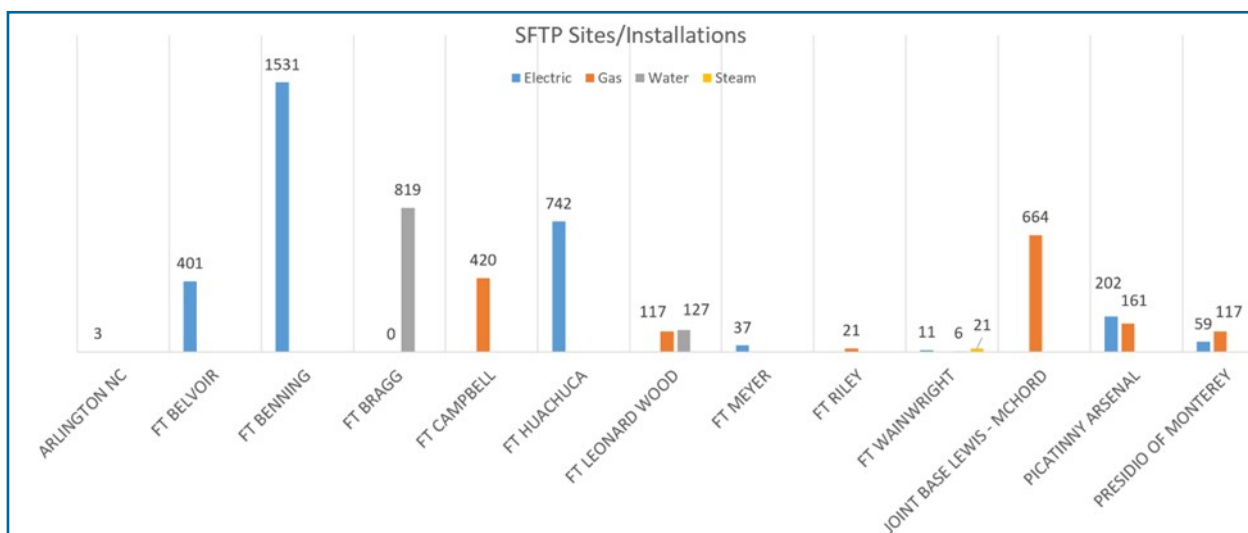
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UP/SFTP SITE INTEGRATION UPDATE

Your MDMS Program Team has continued to work with more sites/installations on integrating their external meter data into MDMS to meet the Army's goal of 60-85% of energy consumption reporting to MDMS. Both Fort Campbell and Fort Riley have been integrated since our last reporting on this topic in the December 2021—January 2021 issue of the newsletter. See the diagram below for all current installations and meter counts per commodity. The team is currently working with Fort Bragg and Fort Stewart, as well as their Utility Providers, on their integration of external utility meters to MDMS. We are working on the following numbers and commodities at these installations:

- Fort Bragg: 1340 electric meters (will be working gas next)
- Fort Stewart: 1410 electric meters (*Continued on pg. 2*)



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UP/SFTP SITE INTEGRATION UPDATE (CONT. FROM PG. 1)

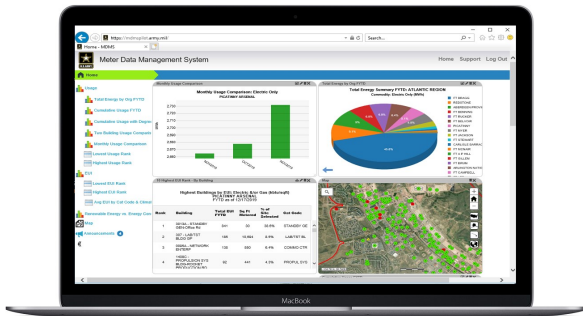
In addition, the team is working with Fort Campbell to add another 384 gas meters and Fort Riley to add approximately 200 more gas meters in to their reporting for October 2022. More to come on that and the addition of other installations in a future newsletter.

TRAINING SUCCESS STORIES

The MDMS Outreach Team continues to provide many training opportunities and conducts 14-16 webinars on a bi-monthly basis, including an open Q&A session where participants can come with questions, challenges, or requests to look at specific meters, buildings, benchmarks, data quality, etc. Below are the 16 courses routinely offered.

Basics

1. Basic orientation/overview
2. Setting up your dashboard
3. Setting up billing
4. Checking meter status



Analytics

5. Basic Benchmarking (1st level) including plug load analysis
6. Understanding and troubleshooting system overrides
7. Using MDMS for M&V (Active Energy Management)
8. 2nd level Benchmarking
9. Monitoring Commissioning (MCX) Process
10. Evaluating the Energy Use Intensity (EUI) report including Custom Usage comparison
11. Comparing EUI to other metrics
12. Setting up for energy projects
13. 3rd level Benchmarking
14. Advanced Analytics 1: AEWRS/MDMS
15. Advanced Analytics 2: 4th Level Benchmarking
16. Advanced Analytics 3: Advanced Metrics for Systems

The training session recordings, complete with abstracts, can be found on the MDMS Library page under Videos. Users may watch the recorded training sessions by selecting the Play button to the left of the course of interest. The PDF versions of the presented slides can also be found on the MDMS Library page under Presentations/Briefings.

Reporting through Q3 FY 2022, the MDMS Outreach Team:

- Trained 3,771 people over the last 3 years on working with the system and how to identify energy savings opportunities.
- Worked with more than 334 organizations in individual sessions on helping them use the right MDMS tool for their analysis.
- Worked with 11 installations as part of our “Trail of Champions” program that involves a group of the Energy Managers, the shops and our MDMS team that work together to jointly find and fix energy issues on facilities.

Breakdown of Success Stories

- Ft. Bragg session showed the Ft. Bragg team how to right-size their backup generators to operate to the lowest output required.
 - *Savings: Man-hours.*
- On three different sessions with the Ft. Carson team, we identified their top priority buildings that were overridden and what the savings would be if the shops were to resolve the issue. They have worked over 50 buildings over the last 3 years making tremendous progress on savings opportunities.
 - *Savings: Annual savings are tough to quantify since they did not do M&V on the individual buildings. Additionally, since COVID masked the energy usage for the last 2 years, trying to check those savings is even more difficult. We laid out proposed savings on 50 buildings with the Energy Manager and the shops. We identified \$285K of savings in those buildings (Continued on pg. 3)*

TRAINING SUCCESS STORIES (CONT. FROM PG. 2)

and they have made substantial progress. The rest of the units will total over \$400K. This is just the meters that met quality metrics. They have continued their aggressive program since these meetings a few years ago.

- Used the Energy Project Identification analysis tool with USARC's 63rd Regional Support Command to determine what ten facilities were their highest priority and what that payback would be per building. The analysis tool supported their findings but provided them with detailed savings.
 - *Savings: Identified buildings they needed to fix which amounts to approximately \$120K of savings for them. They were working with the shops to get these issues fixed. 63rd stated the shops were working these according to our last session.*
- Worked with Ft. Carson to get them data for doing an analysis to test an Army sponsored modeling program.
 - *Savings: Man-hours for the Energy Manager.*
- On three different sessions with the Picatinny Arsenal team, we identified their top priority buildings that were overridden and what that savings would be for the shops to resolve the issue. They have worked energy opportunities on over 100 buildings over the last 3 years.
 - *Savings: We identified over \$250K/yr of savings while collaborating with them in various phases. The shops implemented many of the recommendations or fixed the issues as we discussed them. They also discovered other energy aspects which we used to enhance the functionality as well as the savings. Functionality does not usually draw a savings in energy but it does free up the Energy Manager's time so they can be more effective. The installation has already shown a major reduction in energy use close to 30% (\$1.2M), of which some is attributable to our joint sessions.*
- Identified with the Ft. Polk team a spike in their Air Conditioning (AC) units that caused short cycling of their units. This leads to premature failure of the units and potential peaks on their bill. They resolved this problem across the installation.
 - *Savings: Saved them from premature failure on the AC units. Projected to increase life expectancy on those AC units from 30-50%.*
- Worked with Watervliet Arsenal to identify their redundant circuits and meters to avoid double counting of output.
 - *Results: Helped on usability of the overall usage data from the Energy Manager's perspective. Provided clarity of where usage was and a double check for the analysis.*
- On three different sessions with the Ft. Polk team, we identified their top priority buildings that were overridden and what that savings would be for the shops to resolve the issue. They have worked over 50 buildings over the last 3 years.
 - *Savings: We had several meetings with the Energy Manager and with the shops. The shops have looked at most of the buildings and implemented changes to fix overrides and issues with the AC systems. Those were projected to save around \$160K and may have even exceeded that amount. The Energy Manager and the shops have been aggressively working together on many other buildings since these early actions, so they most likely have found other savings since that time.*
- On three different sessions with the Ft. Bragg team, we identified their top priority buildings that were overridden and what that savings would be for the shops to resolve the issue. They have worked over 50 buildings in the early days.
 - *Savings: We had several meetings with the Energy Manager and with the shops. The shops quickly resolved many of the overrides and issues with the AC systems. We were not calculating savings at that time, but it would have easily been in the \$500K range. The Energy Managers and the shops have been aggressively working together on many other buildings since these early actions, so they would have found other savings since that time. (Continued on pg. 4)*

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TRAINING SUCCESS STORIES (CONT. FROM PG. 3)

- Provided Pacific Northwest National Laboratory (PNNL) with a model for determining the existing usage for meters if all were connected and working properly.
 - *Results: This information and meeting lead to the PNNL report on meters and helped in their policy recommendations for additional meter installs.*
- Identified a problem with Ft. Lee meters reporting off by 1000-times due to a nomenclature change by a technician on site. This was quickly resolved.
 - *Results: Site was able to resolve the issue and fix the reporting. The meters are now reporting at the correct multiplier.*
- Did a meter data quality review with USARC's 88th Regional Support Command. Had follow-up meetings to assess their progress and help them bring all meters up to reporting properly.
 - *Savings: A review with the Energy Manager helped him to see the issues with his meters and work with the contractor to resolve those that were not reporting correctly. Enabled the contractor to fix the problem so the Energy Manager could focus on other aspects of his job.*
- Worked with USARC's 88th Regional Support Command through several one-on-one sessions focused on overrides to schedule. On our last session, the Energy Manager showed the results of his analysis identifying 20+ buildings with overrides, things he had found, actions that had been set in motion, and the estimates he had prepared. We were able to show him the Energy Project Identification Tool which simplified his estimation and project prioritization efforts.
 - *Savings: They liked the project identification reports and had identified \$220K in potential savings with the calls. They are working with the maintenance teams at each location to fix the controls and get those buildings back on schedule to make these savings.*
- Worked with WVARNG to review several sites, buildings and provide guidance on meter data quality patterns. Site is following-up with integrator to get these resolved.
 - *Results: Energy Manager followed up with the contractor to get his meters functioning properly.*
- Worked with Pine Bluff Arsenal over several sessions to identify energy savings projects for their buildings. They assembled a team that addressed the highest priority projects.
 - *Savings: We identified ten buildings to work on that have a savings identified at \$43K. They are working to see what they can do to fix those overrides.*
- Worked with Ft. Bragg on identifying water leaks at their installation. They were successful in resolving those leaks and have continued to be successful in leak detection and remediation.
 - *Savings: The system identified the leaks quickly in three different buildings that had lost a combined \$2000 for the short duration that the leaks had occurred.*

Trail of Champions

We are actively seeking sites to be champions for Energy Management! We are looking for:

- Champions that are willing to engage in active, earnest dialog about using MDMS to implement Monitoring Commissioning (MCx).
- Champions that are willing to use MDMS to its fullest potential to analyze and assess what is happening in the buildings on site.
- Champions that will also provide constructive comments and input to improve energy management with an MCx approach.

The MDMS Outreach Team will support you in this process to find potential savings, help you communicate with the shops on where the savings may be found and measure the success of your endeavors. If you are interested in participating, please contact the Army Meter Service Desk at cehnc-army-meter-help@usace.army.mil.

