Applied Research Associates

Release Notes

Build 2.3.0

July 1st 2016

Contents

1 Introduction

This document describes the resolved issues and features present in the new build (2.3.0) for the ME Design system released on July 1st 2016.

2 Enhancements

ME Design 2.3.0 implemented the enhancements described in the following subsections.

2.1 Inclusion of ("Short") SJPCP/AC Analysis Model

The ARA team in FY 2016 evaluated the feasibility of implementing the Bonded Concrete Overlay of Asphalt Pavement Mechanistic-Empirical (BCOA-ME) model in the AASHTOWare Pavement ME Design software to improve the software's ability to predict bonded concrete overlay distresses. The BCOA-ME model was developed at the University of Pittsburgh as part of the Federal Highway Administration (FHWA) Transportation Pooled Fund Study TPF-5(165), Development of Design Guide for Thin and Ultrathin Concrete Overlays of Existing Asphalt Pavements.

2.2 Climate Database Update

Starting with version 2.3.0 of AASHTOWare Pavement ME Design, the generated climate data files will be based on the NARR dataset model. The NARR project is an extension of the NCEP Global Reanalysis which is run over the North American Region. The NARR model uses the very high resolution NCEP Eta Model (32km/45 layer) together with the Regional Data Assimilation System (RDAS) which, significantly, assimilates precipitation along with other variables. The improvements in the model/assimilation have resulted in a dataset with substantial improvements in the accuracy of temperature, winds and precipitation compared to the NCEP-DOE Global Reanalysis 2. NARR output data includes 8 times daily data at 29 levels and all weather variables required by ME Design. **Note that the NARR HCD files will be available for download on July 15th, 2016 from the ME Design website.**

2.3 Map-ME

Starting on July 15th, Users can visit www.me-design.com/MapME to utilize the new SJPCP/AC analysis along with an updated climate data set from the NARR. MapME pulls data from several government data sets to provide inputs for design projects. Users can then use this data to generate a fully functional ME Design project file for use in the software.

3 Issues Resolved

This section will detail the issues resolved in build 2.3.0 since the previous (2.2.x) build was released.

Mantis ID	Issue	Correction to Software
3684	Initial IRI for SJPCP/AC should show N/A entry, not a numeric entry	Fixed

3683	Resilient Modulus still displays US customary units when running with SI units	Fixed
3682	On Design Properties page, Layer Type is only a number instead of description	Fixed
3680	Importing Layer XML files into the database	Fixed
3678	SJPCP/AC - Level 1 Rehab error in test temperature conversion for SI	Fixed
3676	Slab cracking is not capped at 100% in output report charts	Fixed
3674	cannot run overlay design using Version 2.2	Fixed
3664	Non-multilayer AC rutting causes incorrect/missing AC rutting calibration factors	Fixed
3663	Long duration projects (>25 years) have overlapping labels on X axis	Fixed
3662	On Climate form the monthly average temperatures are alphabetical.	Fixed
3661	Mantis cannot upload/attach files with full NARR climate data	Fixed
3659	Program crashes after removing the last layer.	Fixed
3657	Non-English systems cannot run ME Design analyses	Fixed
3656	Add AC top-down fatigue cracking predictions in the excel report	Fixed
3655	Thickness in calculation different than .pdf, must re-save the file under a new name for correct output to show.	Fixed
3652	Under Oracle VM VirtualBox, running a project in a shared host folder fails	Fixed
3650	Modeling APT study - simulate constant temperature condition	Fixed
3649	I am getting different predicted performances depending upon if the ultimate shrinkage is	Fixed

	calculated or defined.	
3648	Cannot delete/or alter admin rights for users in the oracle database	Fixed
3647	Citrix Deployment	Fixed
3646	Calculation/output error	Fixed
3628	License Reset	Fixed
3478	Rogue Wave IMSL Fortran libraries, development vs deployment licensing	Fixed
3477	Environmental Module in ME Design	Fixed
3476	Report is not showing the user input tire pressure	Fixed
3474	Restore Calibration Defaults for Restore Rigid	Fixed
3473	Test	Fixed
3471	axle load distribution file .alf not working	Fixed
3469	Flexible layer - User defined field 1 not appearing in output	Fixed
3468	Sensitivity Analysis for concrete pavement Design	Fixed
3455	Possible error or typo in CTB fatigue damage model and calibration co-efficients	Fixed
3453	For new unsaved project, clicking Save, canceling, then Exiting does not show normal save-on-exit prompt	Fixed
3452	For an unsaved project, clicking run then canceling the save dialog leaves project in "currently running" state	Fixed
3447	MD5 Crypto Algorithm	Fixed
3441	Save project to database fails	Fixed
3440	Resilient Modulus in PDF Output report for JPCP design	Fixed

3438	Report front page is misleading	Fixed
3437	CRCP Fractured	Fixed
3436	Crack space doesn't hold the new value. Initial IRI gets a warning when less than 63	Fixed
3410	Password change at backend crashes the system	Fixed
3409	Incorrect numeric validation of minimum depth to bedrock	Fixed
3408	MapME: Default climate station selection based on distance is not consistent	Fixed
3407	Can't save a project to Oracle database	Fixed
3406	MapME: Centroid of linestring whose points are collinear (including all 2-point linestrings) is null	Fixed
3402	The software does not produce the report	Fixed
3401	Updates Available issue	Fixed
3400	Exiting ME Design immediately after creating new project asks to save that project twice	Fixed
3396	Clicking "Restore Calibration Defaults" in Calibration Coefficients form crashes ME Design	Fixed
3395	New Flexible Pavement design unbound resilient modulus	Fixed
3389	Error in PDF output report	Fixed
3388	Reflection cracking is not working properly without base layer	Fixed
3387	Closing project during analysis does not stop analysis	Fixed
3385	Asphalt Overlay Design Does not work	Fixed
3684	Initial IRI for SJPCP/AC should show N/A entry, not a numeric entry	Fixed
3683	Resilient Modulus still displays US customary units when running with SI units	Fixed

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3395	New Flexible Pavement design unbound resilient modulus	Fixed
3389	Error in PDF output report	Fixed

4 Outstanding Issues

This section will detail known existing issues in this release of the software and any workarounds available for those issues.

Mantis ID	Issue	Known Workarounds
3686	Existing Asphalt thickness with Milling	N/A
3681	Can not create CRCP & JPCP Output report for Design life more than 51 yrs	N/A
3679	ReflectionCracking.exe - Regionalization settings issue	N/A
3654	Unbound layer modulus values decrease significantly when uploading old files	N/A
3645	CRCP Design Life differences	N/A
3643	Issue with Semi-rigid pavement having a sandwich granular layer beneath asphalt	N/A
3472	PDF Mr Graph shows a Mr value of 0 when choosing "annual representative value" instead of the value entered.	N/A
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5 FAQ

This section describes the Frequently Asked Questions regarding Pavement ME Design.

1) **The analysis seems to halt partway through execution and never finishes. What's going on?**

   Often this is the case when the project has been saved to a location where either the ME Design executable or the ExecutionManagerWindowsService (EMWS) does not have read/write permissions. The EMWS is used to run the analysis and does by default has "local system" privileges. Usually these privileges are insufficient for writing necessary analysis files to common save locations such as network drives.

   To resolve this issue, you can try saving the project locally (such as in your My Documents or My ME Design directories) and then rerun the analysis. Alternatively, you can change the logon permissions for the EMWS in local services in Windows to an account with access to the saved project file location. Note that this will require administrative permission on your machine.

2) **Educational license says "Activated Successfully" then ME Design restarts and shows Unlicensed. What can I do?**

   This problem is due to an older version of the software requiring the validation key be present in the MEDesign.LogicNP.txt file. The validation key has since been integrated into the software and no longer resides in this file. To work around this issue try the following steps:

   - Close ME Design
   - Navigate to C:\ProgramData\AASHTOWare\ME Design (Note that the "ProgramData" folder is a hidden directory by default under Windows).
   - Open the text file "MEDesign.LogicNP.txt"

- Add a line under the number and type "a"
- Save the file. You may need to save the file to your desktop first, then move and overwrite the file in this directory.
- Start ME Design.

3) **My license activates successfully, but then when the program re-launches it shows up as Unlicensed, or tells me my license has expired…What can I do??**

   The issue is due to an invalid PvMED_License.license file in the C:\ProgramData\AASHTOWare\ME Design folder. Navigate to this folder and delete the file, then reactivate your license. It should stay activated this time.

4) **I am trying to run an analysis using "Special Axle Configuration", but I can't find this option within the software. Is "Special Axle Configuration" still available in ME Design?**

   Special axle is now available as of build 2.0.19 in ME Design. Please see the help manual for further instructions.

5) **ME Design seems to be installed and working fine until the user tries to analyze a pavement section and gets the following message in the output box. "…Unable to start due to execution fault."**

   The user needs to access the local services on their machine, locate the ExecutionManagerWindowsService and restart it. They then need to restart ME Design. That should resolve the issue.

6) **I am using AASHTO ME Design Version 1.1 Build 1.1.32. It gives an error (Figure 1) when I make one of the rows of classes in axle load distribution (Single, Tandem, Tridem and Quad) equal to zero. Furthermore, the software does not allow a run of the project before fixing this error. This problem was not present in the previous version of ME Design (Version 1.0.18).**

   Enter axle load distribution "100" instead of "0" at the lowest weight level (see blue highlighted cell in the attached screenshot). This is a temporary solution. It will be fixed in the next release.

7) **When I run the software I get an error: Error running modulus.exe.Program cannot achieve optimization of dynamic modulus master curve. G* inputs do not allow convergence. Analysis aborted." What can I do to fix this?**

   This error message indicates that for your input data for the modulus.exe could not achieve optimization of the sigmoidal function. Have the user check their G* input data.

6 Upgrading

To upgrade to the newest version of the software, users will need to uninstall the current version and then reinstall the new version of the software on their machines. They will be required to input their license code after the program is installed and run. Users using a network based license will be required to input the license service URL as well. The new version of the software can be downloaded at http://www.me-design.com.

7 Contact information

If you have any questions regarding these release notes, or regarding the ME Design software, please contact the ME Design Support Team at:

The ME Design Support Team
Email: pavementmedesign@ara.com
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Monday through Friday
8:00am – 5:00pm CST