LUSAS 15.0 Error Fix and Modification Release Note

This document details changes that have been made since the release of LUSAS 15.0-1 (1617)

Further details of errors that have been fixed can be found in the Knowledge Base on the LUSAS Web site www.lusas.com where the number given in brackets is the reference number in the Knowledge Base. The changes apply to all LUSAS application products unless otherwise stated.

For new features see New_Features_in_15.0
For details of errors fixed in Modeller 15.0-1 see modeller_fixed_15.0
For details of errors fixed in Solver 15.0-1 see solver_fixed_15.0

Version 15.0-8 Released 16th December 2014 (1729)

Change Requests

LUSAS Modeller 15.0-8

- When comma is used as decimal separator the slice result .prn file cannot be read (17851)
- Wrong units for GDL displayed in tool tip when attribute is edited (17956)
- When using Arbitrary Section Property Calculator with Comma as decimal separator: Error: Failure in tabulation (17960)
- Window summary negative feet and inches displayed incorrectly (18039)
- An expression such as -1'6" results in an error message "Ambiguous mix of units and arithmetic operations" (18050)
- Export to PontiEC4 dialog using the wrong sign for phase 3a thermal factors (18056)

Version 15.0-7 Released 28th November 2014 (1713)

Change Requests

LUSAS Modeller 15.0-7

- VLO warning about files changed since installation (17781)
- Model saved on cancelling the "Vehicle Load Optimisation" dialog (17841)
- If a cylindrical local coordinate system is used to transform results in Modeller, the transformed results are incorrect (17845)
- Unhandled exception has occurred in a component in your application. If you click Continue, the application will ignore this error and attempt to continue. Conversion from string "Lane number 1 - 300 kN" to type 'Integer' is not valid (17864)
- Reordering loadcases (e.g. By drag/drop or copy/paste) correctly modifies basic combinations, and the maximum part of envelopes and smart combinations, but not the minimum parts (17871)
- When a new loadcase triggers an update of loadcase IDs, in some cases a warning is issued that IDs in combinations and envelopes will be updated, in other cases not (17874)

LUSAS Solver 15.0-7

- An analysis with constraint equations and non-structural variables aborts with a call stack that ends in VCIRPL (17616)
- Incorrect element stresses are computed when 2D and 3D enhanced strain elements (QPM4M, QPN4M, QAX4M, HX8M) are used in a linear dynamic analysis or in a linear analysis involving lift-off supports. Nonlinear analyses give correct results. (17778)

Version 15.0-6 Released 4th November 2014 (1697)

Change Requests

LUSAS Modeller 15.0-6

- When units are mm, incorrect X coordinates are generated for the patch load for RA1 UK train load to Railtrack Document RT/CE/C/025 (17751)
- Feedback of US AASHTO Pm load values are incorrect when double-clicking on the attribute(17767)
- Feedback of US Arema L1 and Track gauge values are incorrect when double-clicking on the attribute (17768)
- Feedback of US truck load values are incorrect when double-clicking on the attribute (17769)
- Nothing is displayed when a point is created by snapping to a line (16357)
- The influence surface generated for a DMI attribute of type "MF (Longitudinal members)" are incorrect. Transverse members are incorrectly considered in the calculation. This erroneous influence surface may cause VLO to incorrectly place loads. Similarly also for types FV and transverse. (16436)
- No arrow is drawn for Direct Method Influence of type Reaction if the direction is Nodal. (16493)
- Cannot create DMI analysis with Mesh lock on (16968)
- Autoloader: CWDIR is wrongly tabulated in the input file if more than two carriageway are defined (17155)
- Dialogs intermittently and randomly sometimes fail to appear, and/or appear with no controls on them, after working with LUSAS for some time. (17157)
- Modeller crashes when deleting something in any treeview, sometime after using copy and paste (17182)
- When defining the carriageway in VLOI a message is sometimes incorrectly shown saying "VLO is limited to parallel kerbs" even when the kerbs are in fact parallel (concentric) arcs. (17184)
- In the utilities tree, the context menu on a folder (e.g. Parent folder of transformations, reference paths, etc) refers to master and slave. These are not appropriate in this case. (17185)
- Cannot deassign load attribute assigned using "assign to all" (17221)
- Model with lift-off supports solves with no related errors or warnings but does not give results for all the load cases when no lift off has occurred (17235)
- When setting up the checkboxes on the "Nonlinear Analysis Options" dialog in a multiple analysis model, the checkboxes are inconsistently slaved from the base analysis - sometimes changes to the base analysis also apply to other analyses, and sometimes not. (17249)
- Start and finish coordinates of the IMDPlus moving load path not shown correctly in the Moving Load Generation dialog (17253)
- Can't add multiple Eigenvalues to included list in Print Results Wizard (17259)
- Australia, Canada, EU and UK RHS section libraries have negative torsion constants and negative product moment of area (J and Iyz) (17264)
- The beam stresses entity is not available when post-processing results from a cable tuning analysis (17270)
- Surfaces that contain combined lines where the direction of the combined line conflicts with some of the individual lines that make it up, can fail to mesh with linear thick shell elements (17280)
- After changing the geometry in some way (copy, move, etc) it becomes impossible to select lines or points, or sometimes any geometry at all using the mouse. (17284)
- The 'High Speed Train Modelling through Sprung Masses' worked example generates an out of bounds error from .Net when selecting Utilities> IMD Plus> Moving Mass> Moving Load Generation (17287)
- Deselect master joint assignments doesn't work (17294)
- A VLO run created by editing (and renaming) an existing VLO Run uses incorrect default settings. (17297)
- Error message "unexpected error has occurred" can be obtained after using 'copy' and then deleting the copied object. (17301)
- Load applied to Line does not show in the line's properties - loading tab (17304)

- When viewing displacements in the print results wizard, inactive (birth and death) visible nodes are shown in the table, but should not be. (17307)
- A total global distributed moment applied to the edge of a semiloof shell is not computed correctly. (17312)
- IMDPlus Moving Mass Analysis generates .Net errors in Chinese version (17313)
- Annotated end releases are incorrect when only the results file is loaded (17316)
- Adding the 'find' button to a toolbar yields error message "An invalid Argument was encountered!" next time modeller is started (17321)
- IMDPlus Component list is empty if Reactions selected and nodes do not have any supported freedoms (17330)
- Prescribed displacement in a derived analysis does not always override the supports inherited from the base analysis (17333)
- "Results plots" menu item in the context menu of a group (folder) in the attributes panel has no valid menu items within it (17336)
- Assigning a DMI attribute to a node in the Chinese version of Lusas Modeller leads to an error message (17348)
- Import of a particular IGES file results in surfaces that are valid, but cannot initially be visualised (17349)
- Visibility and assignment options for the parent folders of attributes (from the attributes treeview) such as 'set only visible' should also appear in the analysis treeview (17356)
- Tied Slideline with HX8 elements in coupled analysis yields erroneous error message "Slideline(xxx) assigned to Surface xxx defines Volume xxx which is meshed with element that may not be used with slidelines" (17370)
- Path for the UserDesignCode.xml not found for VLO Run if you save a model with a VLO run on a PC and you open that model on a different PC (17423)
- Error message "no such results file open" sometime after choosing to open out-of-date results (e.g. When running VLO) (17424)
- There was a units conversion error occurring when AASHTO vehicles created in version 14 were edited in V15. The vehicle dialog displayed the incorrectly converted inputs. Once the vehicle definition is edited with the correct values the data is stored correctly in V15 (17447)
- LPI commands 'objectSet.Exists' returns 'True' when given an object even if the object is not in the set (17454)
- Unable to reorder drawing layers by dragging with mouse (17457)
- Skew checkbox wrongly disabled when defining DMI attribute with path with negative skew (17458)
- Only possible to create new local coordinate attribute from within reference path dialog when one already exists (17473)
- Creating a new loadcase and moving it to be before an existing loadcase causes Modeller to be confused when setting active (17475)
- The following message occurs many thousands of times every time the screen image changes: "Drawing beam axis loading "Internal Beam Distributed Loading" assigned to Line xxx on the nodal line for BTS3 Element xxx" (17548)
- There was an error in the definition of the SV196 vehicle in the UK National Annex vehicles. This is now fixed. Any previously defined vehicles should be edited and redefined to apply the correct axle spacings (17584)
- Crash on setting element as 'only visible' (17619)
- Smart combinations and envelopes with multiple layers of combinations/envelopes return incorrect results for moment displacement/reactions (17626)
- Section Library - Canadian HA sections from ASTM A500 are displaying properties from HS sections to CSA G40.20 (17639)

LUSAS Solver 15.0-6

- Fast Parallel Iterative Solver fails with database error (16820)
- Thick Beam Elements BMI do not suuport GNL but Solver fails to error when GNL is specified. (17246)

- Option 279 should generate a .stf file but fails to do so with the FEA Frontal Solver (17298)
- If BMI21 beams exists in a model with GNL then the model fails to converge. (17344)
- BRS2 element activated with a non-zero stress (17583)

Version 15.0-5 Released 22nd July 2014 (1681)

Change Requests

LUSAS Modeller 15.0-5
- Error from VLO: Conversion from String "" to type 'Integer' is not valid (17181)
- Autoloader - AASHTO LFD: 'Use mixed vehicles and patch loads' option does not work correctly (17323)

Version 15.0-4 Released 9th July 2014 (1665)

Change Requests

LUSAS Modeller 15.0-4
- When assigning mesh and geometric properties to a very short arc (close to zero length), and then requesting fleshing, LUSAS crashes (17203)
- Modeller crashes when generating modal forces for IMDPlus. (17205)
- Tendons cannot be assigned to some arc lines (17211)
- Rail track defines wrong eccentricity for Deck (17212)
- Models using concrete model 94 are tabulated incorrectly (17215)
- Load directions modified by local coordinate is not displayed correctly (17223)
- Cable tuning doesn't update cable data when edited (17238)
- If a multi-analysis grillage model (beams only) contains a reciprocal influence analysis, viewing results of forces/stresses generates fatal database errors in RSPROP (17240)
- Basic combination gives wrong results when primary component relating to underlying smart combinations or envelopes is changed (17245)
- Results incorrect in combinations and envelopes which contain envelopes when a bottom Wood Armer component is used as a primary component (17247)
- UDR and/or scripted results can be shown in results plots with misleading units (17265)
- When using grillage elements it is wrong to use the Wood Armer components as primary components in a smart combination or envelope as Wood Armer calculation for grillage elements is based on the equivalent plate results which are not available on an element basis (17269)
- Allow user to control option 278 when GNL is use (17290)

Version 15.0-3 Released 18th June 2014 (1650)

Enhancements
- The IMDPlus software option can now carry out moving mass analysis. This allows users to analyse the time domain response of a 2D or 3D structure to the passage of a moving vehicle or train, where spring-mass systems are used to define the configuration of the vehicle.

Change Requests

LUSAS Modeller 15.0-3
- Temperature loads - When a temperature load is assigned to a feature, any other temperature load already assigned on the same loadcase should be automatically deassigned (16874)
- Error in RC slab designer when using units of feet and inches (16898)
- Solver fails to be initiated via Solve button in some circumstances (16942)

- Orthotropic material orientated to a local coordinate system for elements with global reference axes such as plane stress (QPM4 and QPM8) and plate (QSC4 and QTF8) are not correctly orientated. (16957)
- Orthotropic material orientation shown by the Attributes layer is incorrect for elements with global reference axes such as plane stress (QPM4 and QPM8) and plate (QSC4 and QTF8) (16958)
- Slice Resultants of Beams/Shells does not include bars (16988)
- Crash when closing results, or closing model, with user defined results defined (17000)
- Body force assigned to a point mass (PM2 or PM3) element lead to tabulation failure (17025)
- Use of view number 32 or higher will cause memory overwrite problems (17039)
- Basic combinations of eigenvectors with ID other than 1 cannot be evaluated (17040)
- With multiple windows, switching on a drawing layer (that was previously switched off) can yield results from an incorrect loadcase (the one from the previously active window) (17057)
- Values of geometric properties such as breadth are 0 in User Defined Results (17058)
- Starting 64bit Modeller - forrtl: severe (9): permission to access file denied, unit 15, file C:\Windows\system32\fort.15 (17061)
- Some load assignments do not respond correctly to the "select assignments" command. This tends to be assignments with non-trivial calculated load factors, e.g. 1.2345678 (17063)
- When scaling, in X and Y only, a model that has 'joint for beams' assigned to some surfaces, the programs crashes (17083)
- Modeller crashes on moving joint master assignment surfaces (17084)
- Incorrect gamma factors exported to PontiEC4 (17086)
- Existence of analysis with DMI causes Slice Resultant Beams/Shells to fail (17089)
- Trying to create a new load attribute, with the same name as an existing load attribute of a different type, causes crash (17092)
- In print results wizard, when "Stress beam" is selected, for "location" and the option of "Averaged nodal" is chosen. It gives results of 1 everywhere (17094)
- When assigning a tri-linear material to master assignment of the joint mesh the program crashes (17103)
- Eurocode crack width calculation fails with invalid object error in a coupled analysis (17109)
- Thick Shells with plastic material gives wrong stress results (17139)
- Deactivation assignment doesn't result in the expected un-visualisation in particular circumstances (17170)

LUSAS Solver 15.0-3
- Solver may hang during Assembling Elements when using spring supports (17177)

Version 15.0-2 Released 30th May 2014 (1633)

Enhancements
- A new algorithm for placing global exclusion (GE) bogied traffic loads in TLO has been implemented which has significant speed improvements over the old one. The major benefactors will be users of the Swedish National Annex.

Change Requests

LUSAS Modeller 15.0-2
- Wood-Armer errors reported when not viewing Wood-Armer results (15932)
- Crash on opening a recently used model from the Windows Start menu (16497)
- Excessive use of warning message in RC Slab designer (16549)
- IMDPlus: Oversampling warning messages returned even if complying with formula on page 10 in the IMDPlus User Manual (16620)
- For an IMDPlus moving load / mass analysis, incorrect modal forces are computed for models that have transformed nodal freedoms (16636)

- isActive LPI command does not return the expected flag (16844)
- Animation Wizard displaying 0 to 1 despite selection of -1 to 1 (16856)
- Error dialog seen when accessing PontiEC4 menu item (16858)
- Cables are lost when using apply button to create Cable Tuning Analysis (16862)
- Modeller doesn't tabulate NIDX value even though its different from default in LUSAS.str file (16882)
- Print Results Wizard - User defined results are incorrect for a smart combination (16895)
- Modeller hangs before solving if you right-click on one analysis and "Solve Now" (16897)
- Unable to switch influences back on, once marked as 'not for solving' using the 'influences to solve' dialog (16908)
- Feet and inches formatting not shown immediately after modeller starts up (16918)
- A mesh-locked V14.7 model can be imported into V15 and solved, but does not load results. (16926)
- Diagrams don't refresh when results plot options changed (16937)
- Opening a specific V15 model - Cannot see mesh and cannot select any features or mesh (16940)
- Importing v14.7 model with deactivation attribute is set to None by default and different results are obtained (16943)
- Modeller creates duplicate Nonlinear and Transient treeview item when modifying existing values (16977)
- Change to mesh does not trigger re-solve, but results are re-loaded and displayed erroneously (16989)
- Solving doesn't take place with mixed nonlinear and linear analyses.
- "Must specify nonlinear control when using nonlinear materials" is returned in Text Output Window even though nonlinear materials are not included (17009)

LUSAS Solver 15.0-2

- Incorrect results will be obtained if eccentricity is assigned to a curved quadratic thick shell element (TTS6,QTS8). The error is proportional to the amount of eccentricity and shell curvature, and results in an error in area and volume computation, which affects any body forces or UDLs applied to the element. An eccentricity of one shell thickness with a large curvature (0.1) could result in around 5% error in the fore-mentioned loads. No error will occur if the element itself is planar. (16827)
- Illegal Jacobian Determinant error for a QTS4 element that appears to have been defined correctly and that is of good shape and aspect ratio (16920)
- System error - BTREEF Processor for a model solve in V15 that solved OK in V14.7 (16983)