VE 2023.4.0.0 Release Notes

Release Notes

13/02/2024

Contents

VE 2023 Feature Pack 04 Changes

Apache

Loads dialog tab order out of sync [ID-56195]: An improvement has been made to the ASHRAE & CIBSE Loads dialog when cycling through editable fields with tab as the order before was inconsistent.

ApacheHVAC

HWL and CHWL can operate with more than 10 Part Load Ranges in Equipment Sequencing table. [ID-148019]: HWL and CHWL simulations now correctly function properly with more than 10 Part Load Ranges in the equipment sequencing table.

VRF UI component improved after attempting to input out of range values [ID-44947]: The Reference condition - outdoor unit tab in the VRF system dialog no longer goes missing after an out of range value is detected.

Improved error message for failed autosizing of room units [ID-47286]: Error message now highlights affected room ID, multiplex ID and layer number.

Missing dropdown option for [On/Off && Proportional] when a new controller is added to the canvas in the HVAC Network. [ID-145371]: All options are present on first opening controller, previously "Relative to Zn/Rm Setpoint" option was missing from dropdown until closing and reopening the dialog.

VE crashes when performing HVAC-Wizard-based system equipment and plant sizing for ApacheHVAC. [ID-146256]: "New Feature" content manager dialog on first time use of software removed preventing crash on running simulations.

Energy meters UI issue preventing selection of Dry Fluid Cooling in ApHVAC > CHWL dialog. [ID-146445]: CHWL Pre-cooling tab > Fluid cooler sub tab, switching from Wet/Dry to Dry operation correctly selects Dry operation and allows correct interface configuration.

Condenser water loop supply temperature set point profile written to Apache. [ID-145624]: Error where condenser water loop supply temperature set point profile was not being picked up by Apache is resolved so that simulation no longer fails with error '*Condenser water loop supply temperature set point profile for chilled water loop: no definition found for profile XXXX*'.

ApacheSim

Miscellaneous Energy Consumption included in simulation [ID-147683]: Values entered in Misc Energy Consumption end uses are included in energy simulations and reported under correct end uses in VistaPro (as well as reports from 90.1, NECB, IECC, Title24 Navigators).

Apache Systems

Secondary circulation options do not disable when unselecting "Does system have secondary circulation?". [ID-143411]: Options under Secondary circulation are disabled when user unticks "Does system have secondary circulation?"

Building Template Manager

Locking on Internal Gains and Air Exchanges improved [ID-130847]: Management of the Internal Gains and Air Exchanges libraries in Building Template Manager. Gains or Air Exchanges are now correctly recognised as in use if assigned to any template or space through the project (real as well as variant models) and can be removed if not in use.
In the library gains or air exchanges may be multi-selected and deleted when working in Building Template Manager (similar to the option already present in Tabular BTM)

Building Template Manager Import updates [ID-129338]: The Import Templates option on Building Template Manager is enhanced to facilitate faster Thermal Template import to projects that have a lot of Thermal Templates.
When NCM Data is imported via the Thermal Template import the data imported is set as Generic (rather than NCM locked) so the user can manipulate this as required.

Components

Manufacturer Component hyperlinks are not selectable. [ID-147551]: Component hyperlinks can be clicked and open in users default web browser.

Content Store

Updated the TM59 Analysis Report script to prevent invalid characters from being used [ID-50694]:
Entering any of !"£$%^&*() into the summer air speed or excel filename input boxes would cause the script to fail. These characters can no longer be used.

General

Opening a project via Start Page can lose changes in existing model or result in an empty HVAC system file. [ID-145141]: Opening a model when the currently-opened model has unsaved changes prompts the user to either save the changes, discard the changes or cancel the opening of the model.

Loads Report

Heat Transfer Loop Retaining Cooling Capacity Values from Previous Simulation. [ID-145201]: Within the Heat Transfer Loop section of the System Sizing reports, the Cooling Capacity is no longer pulling values from the previous simulation.

MicroFlo

MicroFlo CFD grid size can be set for regions. [ID-144956]: Grid size changes can be applied and persist in regions.

ModelIT

Angular locks not working for 90-degree increments (not snapping to line on orthogonal axis when grid snap is not on). [ID-148066]: Improvements to angular locks to snap to orthogonal axis when used in conjunction with grid snap.

Erroneous warning when placing a free-standing PV panel in a model when the model consists of a Translucent Shade or 2D objects set at the same plane [ID-141128]: The warning that the PV Panel touches an existing body no longer appears.

Object Bar shows Total Floor Area and Volume of selected spaces. [ID-142748]: Titles on the Object bar are now persistent on "Total Floor Area" and "Total Volume".

Model Viewer II

Include components at model level applied in Preferences [ID-144331]: 'Include Components at Model Level' option is now applied in Model Viewer II when set via Tools >> Preferences.

Assign Surface Textures dialog display corrected [ID-147550]: The external and internal textures columns now display correctly.

Model clipping in orthographic view. [ID-146936]: Issue in some cases where edges of model were clipped while using Orthographic view has been resolved so that full model is shown for the selected zoom constraints.

Navigator for BREEAM

BREEAM combined report does not pick up images correctly. [ID-49176]: The BREEAM report images display correctly; Both in the individual and combined reports

Navigator for ASHRAE 90.1 PRM

Florida Compliance report not generating [ID-45328]: Resolved an issue in which the Florida Compliance report did not generate when unmet load hours equal zero.

Guidance Document button on HVAC Wizard for 90.1 2010 ECB mode opens the wrong Help page [ID-142718]: The ECB guidance 90.1 2010 help page is opened when the Guidance Document button is clicked on the Baseline page of the HVAC Wizard.

Navigator for Indalo – Indoor Air Quality Simulation

Navigator added [ID-134211]: Navigator added to allow model to be exported to Octopus Labs Indalo for IAQ analysis. A new licence key is required for this so please contact sales@iesve.com to have it added to the package.

Navigator for NECB

NECB report text issue. [ID-147423]: Issue where graphic overlapped some text resolved.

Navigator for New Zealand Compliance

Selecting building type in NZ triggers assertion. [ID-49991]: Selecting a building type in NZ view no longer triggers an assertion

Navigator for Title 24

Title 24 2019 – Residential DHW systems missing in Proposed system. [ID-149757]: The Title 24 residential DHW systems are now marked as selected in the Waterside Heating System Selection section after being generated within the HVAC Wizard and will therefore be included in the final Proposed system.
This also corrects issue with an unassigned ID for the pump component in the HWL serving the residential DHW system, which caused Apache to fail.

Removed non-standard character from ventilation function 'General - Unoccupied' in the CBECC export file to prevent an error when loading the file in CBECC [ID-147743]: Files exported from a model referencing the Storage template no longer contain a non-standard character and can be successfully loaded in CBECC.

Standard Design System autosizing correction [ID-145528]: In cases where the Proposed system has not been autosized the Standard Design System would not be correctly sized following the Standard room loads, this has now been corrected so the sizing is applied regardless of Proposed model state.

RadianceIES

UDI CBDM simulations>Process dialogue> enabling EFA checkbox does not reset edited band values to EFA values. [ID-136123]: Enabling EFA checkbox resets manually edited band values to EFA values.

WP Zone Data Dynamic sims - WP Grid tab - .wpd file - Daylight Factor % text in viewport only showing whole numbers. [ID-144329]: Key shows the correct number to the required number of decimal places (2)

VE Compliance

Initial Fuel Meter assignment is incorrect after setting Heat source. [ID-144106]: Default meter selections correctly being assigned in the NCM System Wizard to match the chosen heat source.

Assigned Templates not carried forward to VE Compliance correctly. [ID-134484]: When a thermal template has been assigned to a space outside VE Compliance that has NCM Activity and Type set via BTM, switching to VE Compliance and querying the space this now shows that the NCM template matches that specified in the Building Regs tab of BTM (and shown on the dialog bar).

NCM Activity "NCM Unheated Space" is no longer available. [ID-146926]: NCM Unheated Space is no longer able to be selected and if a previous model has invalid activity assignment (i.e. "NCM unheated space" on a heated room), the rooms with the issue are reset to use the default activity for their building type with an alert shown to user.

Void areas written out to BRUKL input file HVAC section causes BREEAM ENE01 online error 'sum of areas in HVAC system objects does not equal building area' [ID-136517]: Void areas now written out with area as zero.

Section 6 2022 Compliance shows wrong BER on BRUKL when ApacheSim Reporting Interval less than 60 minutes. [ID-150967]: When using ApacheSim method for Section 6 2022 Compliance and the Reporting Interval is less than 60 minutes on the Simulation Settings then the BER is now correctly derived from the simulation results file and written to BRUKL.

VE Scripts

Profiles created with 'create_freeform_profile.py' causes Apache simulation to fail. [ID-48984]: Apache simulation can run using default profiles create via create_freeform_profile script.

VistaPro

Excel Loads Report can generate when model contains room on inactive layer [ID-147684]: Generating excel reports when the model contains inactive layers no longer causes a script error (*IndexError: index 0 is out of bounds for axis 0 with size 0*).

Chart Data improved when viewing ApacheHVAC results [ID-47770]: Component IDs are now displayed in the chart data dialog.

Peak time table display broken for building level variables [ID-48106]: Peak time table now correctly displays data for building level variables.

Peak time/day table can now be opened with multiple results files selected [ID-146754]: Chart for peak time/day now opens when multiple results files are selected.

Water Energy NEXUS script doesn't process more than one Cooling Tower [ID-138766]: When running the Water Energy NEXUS script with multiple Cooling Towers, it processes all Cooling Towers included in the .aps file.

Energy Report can generate for sub-60 mins reporting interval [ID-140855]: Fixed an index error that occurs when running an ApacheSim simulation with either 30/10/6 minutes reporting interval set.

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VE Compliance

Reverted - **Void areas written out to BRUKL input file HVAC section causes BREEAM ENE01 online error 'Sum of areas in HVAC system objects does not equal building area' [ID-136517]:** Void areas now written out with values as 0.

VE 2023 Feature Pack 03 Changes

Apache

Performance improvement after assigning Constructions [ID-142985]: The adjacency rebuild that occurs after assigning Constructions is significantly faster.

Entering a negative internal gain causes sensible heat gain columns to disappear from Tabular Space Data [ID-80832]: Resolved the issue which results in sensible heat gain being removed from Tabular Space Data when a negative internal gain is entered.

Occupancy gains in W not shown in tabular space data [ID-48592]: Occupancy internal gains column reinstated.

When assigning different constructions to individual translucent shades the assignment could be lost after subsequently editing a different translucent shade [ID-142157]: Translucent shade assignment now persists.

Translucent shade assignment to multiple shades only applies to the first in the selection set [ID-142163]: Translucent shade assignment now correctly applies to all in the selection.

ApacheHVAC

System air-handler cooling coil control updates [ID-130588]: The logical AND connections between cooling airflow and cooling coil controllers previously included to address unnecessary coil operation have been replaced with a default configuration matching that of the most common AHUs.
New option "Turn off AHU cooling coil when no rooms or zones require cooling or dehumidification" related to this is available on System Parameters.

Heat Transfer Loop Pre-heat for HWL and DHW [ID-130211]: Heat Transfer Loop (HTL) is now available as an alternative to CWL for pre-heating of HWL or DHW using the existing explicit heat transfer model or simplified water-to-water heat pump.

Error in fluid cooler prevents adding chillers to chilled water loop (heat rejection device active is set to cooling tower) [ID-47254]: Fixed issue where adding new chillers was prevented by inactive fluid coolers state.

Import of CW Temperatures from LCT vs. ECT Chiller Curve Libraries to CHWL Chiller equipment in ApHVAC [ID-136039]: Importing correctly applies the condenser entering water temperature in the calculation of design conditions from reference conditions.

CPHP dialog minor UI issues [ID-139957]: Resolved issue where meter assignment dialogs were displayed in some cases when they shouldn't be and the 'number of identical heat pumps' input field is now correctly enabled/disabled where applicable.

Radiator autosizing improvement [ID-134608]: Room Units are automatically autosized following a successful loads calculation and in the case of Radiators the hot water loop temperature is picked up from Secondary loop assignment where independent temperature control been specified.

Prototype primary-only Hot Water and Chilled Water loops erroneously have a constant-speed pump by default [ID-44575]: Resolved an error so now Prototype primary-only Hot Water and Chilled Water loops default with a variable speed pump.

The pump performance curve name for variable speed pumps based on ideal pump laws clarified in the Hot Water Loop, Chilled Water Loop, and Heat Transfer Loop dialog boxes [ID-44576]: In the dropdown selector 'Variable speed' updated to 'Variable speed – cube law'.

Prototype Primary-secondary Hot Water and Chilled Water loops erroneously have variable-speed pump assigned to the primary pump [ID-44579]: Resolved an error so now primary-secondary Hot Water and Chilled

Water loops correctly default with a variable-speed pump on the secondary loop and constant speed on the primary loop.

HVAC toolbar button to cycle through multiplex layers not shown by default [ID-48243]: Toolbar for multiplex layers is now shown by default.

Adjusted the default state of controllers for the energy recovery component on applicable prototype systems [ID-47907]: The default in the System Parameters dialog is for the control of the airside Energy Recovery to be OFF, the initial state of the controllers for the energy recovery component now match this.

Approach Edit checkbox enabled on cooling towers with Variable design option selected [ID-48290]: Approach Edit box is now read-only when the Variable design (ASHRAE 90.1) option is selected.

Prevented a glitch occurring when switching on graphics view and then selecting the Secondary Loop tab on a Hot Water Loop [ID-56204]: A glitch, when switching to graphics view in the Secondary Loop tab, which caused certain fields to appear missing until moving the mouse cursor over the missing fields, no longer occurs.

Incorrect behaviour on saving a new controller with ON/OFF Control when Proportional Control has been set previously [ID-56224]: A warning message ("must be some feedback control from sensor") is no longer displayed when a new controller has been added that has had Proportional Control enabled and then the user tries to enable the ON/OFF Control.

Room radiators and radiator types get deleted when using the HVAC System Wizard [ID-137997]: Room radiators and radiator types are no longer deleted when an existing HVAC file is used with the HVAC System Wizard.

Chilled water loop graphics display - unused demand connector termination icon [ID-140445]: CHWL unused demand connectors show on the waterside graphics display.

Chilled Waterside schematic doesn't connect to cooling coil [ID-45972]: Resolved error causing displaced demand side components on chilled water loop waterside graphics to show incorrectly in some cases.

Updated the default setting for 'Location of pre-heating components' [ID-139857]: 'Location of pre-heating components' is now set to 'Combined dependant + independent demand loops return'.

Loads/Coils wrongly assigned when 'Distribution branch for coupling loads directly to primary loop' is enabled. [ID-139859]: With a Hot Water Loop configuration set to 'Primary-Secondary' and the 'Distribution branch for coupling loads directly to primary loop' option is checked, the coils now sit on the Secondary hot water loop, which is the functional equivalent to the coils being on the Primary loop in the Primary-only configuration

Constructions Database

Corrected 'Hardboard - High density (ASHRAE)' material conductivity value [ID-133840]: System Materials library updated. Metric value set to 0.12 W/mK.

Cannot expand columns in the IGDB import dialog [ID-138224]: User can now expand columns in IGDB dialog.

Content Store

To access updated Content Store scripts log in via www.iesve.com and download again from My Recent Purchases.

Updated the VE Compliance Script [ID-48107]: The script now runs when a model includes a hot water storage system with the 'Insulation type' option selected.

Updated Extract Proposed and Baseline Results script [ID-124653]: The generated report now includes results for refrigeration energy use/cost.

Energy Sources and Meters

Adding a sub-meter to an already-in-use meter leads to inconsistencies [ID-139970]: If a meter is already assigned in the project and sub-meters are added below that meter then the Conflict Resolver is shown to allow re-assignment of a valid meter.

Energy Meters selection sticks during assignment to give the impression that 2 meters are selected [ID-140074]: When switching meters only 1 meter can be highlighted.

EU Navigator

EN 12831 script error on unsaved project [ID-47681]: User is now prompted to save the project before being able to run simulations.

FlucsDL

Unhandled exception in FlucsDL [ID-130179]: Error handling improvement.

General

Added GEM file option to the Start page > New Project > Create From BIM File route [ID-140139]: *.gem & *.gsk files can now be selected for import.

gbXML export updates [ID-139787]: The gbXML export has been updated to include an additional property for walls, floors and roofs where the surface type is 'ground contact' / 'underground'. Permeance values are included for materials which have a value defined. Transmittance and shading coefficient properties for glazing have also been added.

gbXML import crashing the VE (gbXML from ArchiCAD) [ID-143115]: Crash no longer occurs, change to datetime processing prevents crash.

gbXML file does not import - stuck at Merging quarantine model into IES Project [ID-142530]: Models can now be successfully imported.

Crash occurs when overwriting an archived project [ID-142416]: Resolved a crash when extracting an archive project, making edits to the project and then archiving that project again, overwriting the original archive.

Missing meter error after Master template import [ID-133982]: When importing via master template an item being imported that makes use of meter(s) (e.g. internal gains, Apache systems, HVAC networks etc), the relevant meter(s) are automatically marked for import, as with other dependency items.

'Display space ID' option in the browser only updates by switching the view or changing the browser view from spaces to other options [ID-141048]: Display space ID option now correctly updated without a refresh.

Importing a GEM file - colour not assigned to zones [ID-140573]: Colours are correctly imported when using GEM file.

MagiCAD Navigator

MagiCAD script error on cancelling [ID-125262]: When cancelling out of the file selection window an error message would be displayed, this no longer occurs.

ModelIT

Performance improvement when partitioning and copying spaces in ModelIT [ID-143204]: ModelIT functions such as partitioning and copying no longer slows down when changing the browser view.

Issues snapping to points on the grid using Angular Lock [ID-123678]: A fix has been implemented so when using the draw extruded shape tool with angular lock enabled, users can correctly snap to points on the grid when aligned to the x or y axis.

Prevented grid lock override issue [ID-141590]: Drawing spaces while zoomed out would cause other lock options to override the grid lock option.

Inner volume tick-box does not retain selection after closing dialog (if no space is drawn) [ID-128345]: Inner volume tick-box selection is retained based on user selection.

Renderer OpenGL shows double lines on ModelIT workspace after a space has been selected/highlighted [ID-140026]: Reduced the effect of a graphical display issue due to a difference in OpenGL and GDI renderers, note: further improvement to OpenGL display is scheduled for a future VE update.

Fixed memory usage issue when using bitmap file [ID-56292]: Using the ModelIT > Bitmap file > Attach bitmap function no longer causes memory usage issues.

Planar objects show up in Model Report with 'unmatched edges' [ID-140185]: Model report no longer shows unmatched edges for Planar objects.

Deleting PV panels and undoing causes a mismatch in IDs [ID-144994]: When using the undo action to restore deleted PV panels they are now restored with the same ID they had prior to being deleted.

Navigator for ASHRAE 90.1 PRM

Florida Code Compliance 2023 supported via ASHRAE 90.1-2019 App. G PRM navigator [ID-128749]: 90.1 2019 PRM solution updated to allow for compliance with the 8th Edition of the Florida Energy Code (2023). Note: this is released pending final approval from FEC.

Lighting profiles for Dining - Cafeteria / Fast food have been set incorrectly [ID-49270]: Resolved an error in which the Variation Profile was set on the Dimming Profile and vice versa for the Dining - Cafeteria / Fast food lighting profiles.

90.1 2013 CZ-2 Residential building baseline glazing construction Assembly U-value incorrect [ID-49172]: U-Value updated to 0.57 from previously incorrect value.

ECB constructions erroneously applied to the baseline model for 90.1 2016 and 90.1 2019 [ID-144250]: Correct baseline constructions are now assigned.

Baseline rotations message not displayed in 90.1 2019 model selection dialog [ID-142470]: Fixed an issue with the 'Baseline rotations not required' message not being displayed when geometry is positioned in any of the degree baseline rotations causing an obstruction.

'Baseline rotations not required' message remains displayed in PRM model selection dialog if obstructing geometry is deleted [ID-142647]: Fixed an issue so now the 'Baseline rotations not required' message is no longer shown in the PRM model selection dialog when any obstructing geometry is deleted and the baseline model is re-generated.

SunCast for baseline models option not available in PRM 2019 model selection dialog [ID-142555]: Fixed an issue with the 'Include SunCast for baseline models' checkbox not being available in the PRM 2019 model selection dialog.

HVAC component output option not available in 90.1 2019 model selection dialog [ID-142537]: Fixed an issue with the 'Provide HVAC component output in baseline runs' checkbox not being available in the PRM 2019 model selection dialog.

'Provide HVAC component output in baseline runs' option has no effect in Appendix G for both 90.1 2016 & 2019 [ID-142649]: Fixed an issue so now when the 'Provide HVAC component output in baseline runs' option is enabled, detailed HVAC output is provided for baseline .aps files regardless of the simulation output options settings.

90.1 2004: 'Import and Edit Baseline System' navigator action does not open import dialog with '90.1 PRM 2004 Baseline systems' branch expanded [ID-140651]: Baseline systems navigator section behaviour now consistent with other navigator sections.

Navigator for NECB

Navigator for NECB 2020 added [ID-51087]: National Energy Code of Canada for Buildings (NECB) – 2020 navigator added to cover the 2020 code.

'Acquire design weather' action in the Weather Data Wizard (NECB) fails for a range of locations [ID-145157]: The 'Acquire design weather' action is now working as expected for all available locations.

Fixed an issue in the NECB Location and Weather Data Wizard [ID-145353]: When setting the location, selecting a city region header now moves the selection to the first site in the region as intended.

Navigator for OneClick LCA

Improved OneClick LCA script to handle scenarios where the project folder name doesn't match the project name [ID-50952]: Script now runs as expected.

Navigator for Title 24

Fan power adjustment not applied correctly when using pressure drop adjustment in Title 24 2019 and 2022 [ID-123736]: The 'pressure drop adjustment' value in system parameters now correctly affects the 'design total pressure' and subsequent 'design fan power' value as expected.

Title 24 2019 energy simulation doesn't start [ID-45384]: Error causing simulation to fail to start in some models resolved.

Fixed error when generating compliance report [ID-142685]: When using a CPHP system an 'invalid chiller' error no longer occurs.

Fixed checkbox selection in Building Data dialog [ID-141848]: The state of all the checkboxes in the Form 2 tab are now retained when switching tabs or closing the dialog.

Part of model bounding box not included in SARA report image render [ID-136221]: Resolved issue with image generated for SARA report, where in some cases not all solar panels would be shown when placed on outer edges of canvas.

With OpenGL renderer active, MV2 image render fails after performing several SARA simulations [ID-139525]: Error after multiple simulations causing crash resolved.

Extended the Title 24 Report Generation timeout period [ID-144108]: The timeout for the external report generation service has been extended.

RadianceIES

Incorrect ' DF >2.00 = Area %' value displayed in the WP Grid results table [ID-144267]: The correct value is displayed on the workspace summary when an AOI is applied.

Default radiance construction colour issue [ID-47697]: Ceiling construction has the same default colour as the standard floor.

AOI not automatically created for second image generation/room [ID-44587]: AOI is automatically generated when required.

RadianceIES Faster Calcs preference not available without SunCast licence [ID-56216]: The option to set faster calcs is now available if users have a radiance or SunCast licence.

Can't run dynamic daylight sims in Radiance with luminaires and daylight switched off [ID-144319]: Error message is presented to the user explaining why simulation cannot be run.

Image modifier not being applied to glazing in Luminance images [ID-135209]: Selected textures are now applied as expected.

Fixed error in Vertical Sky Component simulation results display [ID-143131]: Running a VSC simulation and subsequently editing a model would cause the results displayed on the openings to be out of sync.

Crash when switching between VistaPro and Radiance after generating sDA app file [ID-141181]: Resolved a crash that occurs when switching between VistaPro and Radiance while room is selected with a generated sDA file.

SunCast

Annual Probable Sunlit Hours (APSH) updates [ID-51786]: SunCast now provides optional hourly solar results for a full annual simulation. The APSH method can now use the hourly solar results along with cloud data from weather files. The solar irradiance and cloud cover threshold values for the APSH method can be set by users in an APSH settings dialog.

Solar Exposure Analysis results show wrong results for display range [ID-126822]: Result scale now shows the correct value based on the selected range.

Error on loading solar energy analysis results with diffuse shading factors [ID-141927]: Resolved an error occurring reading the shading file when attempting to load solar energy analysis results with diffuse shading factors are enabled.

APSH - Surface area is not consistent between ModelIT and SunCast [ID-47889]: Surface area is consistent across SunCast and ModelIT. Surface area index starts at 0.

VE Compliance

Scotland Section 63 Appendix A updates [ID-139522]: Prescriptive measure updates added for central time heating control, hot water storage insulation, and roof insulation.

VE Compliance inner volumes not being created correctly [ID-142226]: Inner volume created when switching to VE Compliance now correctly sets internal partitions thickness to zero extending out to inner surface of external walls.

Model crashes VE during compliance simulation [ID-143618]: Error using OpenGL renderer when generating the notional building resolved.

Foundation area can be set to 1000 sqm leading to very large PV panel area in Notional building [ID-81625]: Foundation area persists correctly.

Fixed display error on Part L Ireland (2022) Results tab [ID-134619]: The results tab was incorrectly displaying a pass result on a failing RER value.

Void areas written out to BRUKL input file HVAC section causes BREEAM ENE01 online error 'Sum of areas in HVAC system objects does not equal building area' [ID-136517]: Void areas now written out with values as 0.

VE Compliance tabular space data does not match space data when project method is ApHVAC [ID-45589]: Tabular space data now shows correct columns when in VE Compliance.

Part L England (2021) Edit > Misc Energy Consumption contributes to Total Lights CE variable in VE Compliance impacting the BER & TER calculations [ID-132474]: Miscellaneous Energy consumptions ignored for all UK and Ireland compliance routes and button removed entirely from toolbar.

Part L 2022 Ireland SBEMie 5.6.a BER fails if B-ADDRESS-3 is empty [ID-135713]: Address Line 3 can now be left as empty and is not written out to input file causing error.

VE Scripts

ApHVAC heating COP for air-to-air heat pump - deprecation message [ID-47127]: The deprecation message has been updated to properly inform the user on the steps to take if they use design_params to find the COP on this coil type.

API - Weatherfilereader (slashes in names) [ID-47756]: API now handles slashes in weather file name.

NCM Activity Not Preserving via the IES API [ID-131708]: Edits to NCM activity via api are applied correctly and persist.

VistaPro

HVAC Controller Outputs added to VistaPro [ID-127122]: When selected under Output Options for ApacheSim, detailed ApacheHVAC controller outputs are available in VistaPro.

Range tests tool in VistaPro gives wrong number of hours (hours above setpoint showing unexpected hours) [ID-47860]: Range test tools gives correct values when evaluating greater than a value by improving precision of the variables being assessed.

Energy report KeyError: 'District' [ID-139290]: Error preventing energy report generation when district heating is assigned resolved.

Energy sim report not working [ID-49977]: Updated error message presented to user describing the issue when attempting to run report on an unsaved model.

Loads report button name does not update in VistaPro when CIBSE methodology is selected [ID-47138]: When CIBSE loads methodology has been selected, the loads report button name in VistaPro is now renamed to 'Room and Zone Loads'.

VistaPro colour gradient chart save as image or copy to clipboard gives a black image [ID-140375]: Copying chart from VistaPro retains details correctly.

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Model Viewer II

Model Viewer II - Input data visualization tool legend header overlaps text [ID-138892]: Error causing legend to overlap in some cases resolved.

Navigator for Title 24

Updated quadrants for surface orientation in Title 24 2022 CBECC export file [ID-143059]: The four quadrants are now centred on the N/S/E/W compass points.

Fixed error in zone heights in Title 24 2022 CBECC export file [ID-143060]: Zone heights were incorrectly being averaged over all storeys.

Disabled Title 24 2022 CBECC export function for models with duplicate zone names containing non-residential spaces [ID-143089]: Zone names containing non-residential spaces must be unique to use CBECC export function.

Void roof spaces now included in Title 24 2022 CBECC export file [ID-143569]: Void roof spaces are now included in the export file attic element.

T24 2022 CBECC Residential Export improvements [ID-143720]: Export file now shows all walls and external windows individually; previously they were amalgamated based on orientation. Internal wall and floor adjacencies are exported with their own area rather than the average for the space. Doors and skylights are also now exported.

Corrected zone group elevation value in CBECC export file [ID-144469]: Elevation (Z) is now equal to the starting point of the space/zone on the lowest floor within a zone group.

Updated ResidentialOtherZone names in CBECC export file [ID-144509]: File now contains the names set in the VE.

Bottom, Floor to Floor, and Ceiling Height are now included in the CBECC export file [ID-144545]: Each zone is now exported with values for the specified fields.

RadianceIES

Luminance Images/DGP [ID-143571]: Error causing surfaces to disappear above openings in luminance images resolved.

VE 2023 Feature Pack 02 Changes

ApacheHVAC

Hot Water Loop Auxiliary Heat Source updates. [ID-125327]: Central Plant Heat Pump and simple Air-Water Heat Pump can be selected as AHS downstream of the hot water loop primary equipment.
Graphics updated to show position and icon of AHS on hot water loop.

Hot Water Loop Auxiliary Heat Source import option. [ID-125327]: Import button added on AHS interface to allow an existing instance of Hot Water boiler, Part Load Curve or Central Plant Heat Pump to be imported and assigned.

Negative airflow error when ventilation requirement is at least equal to exhaust airflow. [ID-49502]: Resolved an issue resulting in a false negative airflow error when the 'Force zone outside-air ventilation requirement at least equal to exhaust airflow' checkbox is ticked in System Parameters and system sizing is run.

Negative airflow error when space temperature setpoints are set from a profile. [ID-131144]: Resolved an issue resulting in a negative airflow error when a user assigns space temperature setpoints with a profile.

Resolved a simulation error when modelling multiple chillers that include at least one chiller that has no operation in the 100% load range and cooling tower control set to 'Interlocked with chillers' [ID-45155]: Simulation now runs without error.

Fixed issue with incorrect value assignment to heat rejection cooling tower [ID-45155]: The HR device capacity (for the interlocked with chiller option) excluded chillers which were not operating in the 100% range. This has now changed and for this option all EWC chillers are accounted for regardless of range.

Fluid cooler energy end use dropdown doesn't grey out when untick ambient device on pre-cooling tab. [ID-48386]: When ambient device unselected while viewing the Fluid Cooler tab on chilled water loop >> pre-cooling tab the energy end use dropdown now correctly disables with rest of tab interface.

HVAC Wizard water loop heat pump doesn't create heat transfer loop automatically. [ID-47011]: When a water loop heat pump is selected in the wizard the selection of the heat transfer loop is included in the network.

HVAC wizard text fully displayed. [ID-89173]: Text no longer cut off in wizard on certain screen resolutions

Hot Water Loop Auxiliary Heat Source can be edited from browser tree. [ID-126240]: Selecting AHS components from the browser tree now opens and highlights correct dialogs in the UI.

Crankcase heater power should always be in Watts, irrespective of the active unit's system. [ID-127890]: Crankcase heater power is always displayed in Watts for both CPHP and AAHP.

CPHP - Instance numbering gets out of hand when multiple loops exist in the same HVAC file. [ID-127969]: For the auto-generated CPHP references, only the parent CPHP equipment's attached CPHP component references are used for the next generated auto number.

CPHP - Sizing Mode incompatibility pop up presented to the user. [ID-124311]: Tool tip pop up explaining why the sizing mode is not compatible and disables the option when attempting to use a loop that is incompatible.

Fixed CPHP pump meter assignment issue [ID-133865]: CPHP Water-to-water heat pump meter selection is now retained.

HWL and CHWL have incorrect default flow controls and/or pump curve selection, and primary loop flow control is inappropriately changing the secondary loop pump curve selection. [ID-136124]: Default values now correctly set on creation of new hot water loops (HWL) and chilled water loops (CHWL) as well as changes to loop configuration.

Condenser Water Loop properties values on HWL >Preheating Tab >Heat Recovery are not updated when source CWL is edited. [ID-126170]: Values now correctly update without needing to manually refresh.

System pressure drop adjustment for system layers appearing as NaN [ID-136483]: An issue has been resolved in which the system pressure drop adjustment values for system layers were erroneously appearing as NaN.

Design loop capacity property is not updated in "Preheating->Air Water Heat pump" Tab when it's modified in Hot Water Loop Tab. [ID-131798]: Value correctly updates when edited.

Direct-Acting Heater/Cooler 'Flux at min sensed DB Temp' value is not retained when .asp file is reloaded. [ID-137394]: Value retained on system being reloaded.

Fixed issues in room unit controller data input to Apache [ID-134839]: In cases for systems where system parameters use 'constant' or 'two-value' set point variation options and room unit controllers of all 3 types have the set point variation option set to 'relative to zn/rm setpoint' the following issues in the data passed to Apache have been resolved:
(Both variations, offset applied) the setpoint value was written out as on UI , i.e. including offset (if checked), however the same offset was also being written out separately which added that offset again - so it was getting added twice for the sim.
(Two-value, no offset) the second value was written out as copy of first value (typo)
(Two-value) when on/off tab had Offset unchecked, this would override a checked Offset on Proportional tab(s).

Fixed issue with Primary and Secondary Cooling/Heating selection in HVAC System Wizard [ID-130699]: WAHP - Heat Transfer Loops pair can now be selected in the Primary and Secondary Cooling/Heating dropdowns.

Remove the removal restrictions on water loops connected only with reversible CPHP. [ID-128219]: After the removal of the loop the remaining loops CPHP changes its mode as per the remaining loops capability i.e. after removing the hot water loop, the CPHP component capability would change to 'Cooling only'.

Changing Multiplexed Steam Humidifier Electricity Meter Does Not Fully Update Rooms/Zones. [ID-125052]: Editing the electricity meter for a multiplexed Steam Humidifier now applies the change to all selected multiplex layers.

Updated the default link option within the Direct-Acting Heater/Cooler component [ID-52211]: The default option is now 'None <Select>'.

Fixed UI error in multiplexed dependent controller dialog [ID-129402]: Independent controller UI elements no longer appear in the dependent controller dialog after editing a profile option in the Data Table dialog.

Cooling/Heating Equipment dialog - Error when entering value prevents additional input appearing. [ID-128019]: Incorrect behaviour when entering values on dialog prevented.

ApacheSim

Translucent Shade option added. [ID-81680]: Translucent Shades can be drawn in ModelIT. Construction based Transmittance or a value applied directly in ModelIT (annual fixed value or monthly values) will impact on direct beam solar radiation that propagates through the shade and subsequently through building windows when simulation is run with SunCast link enabled.

Apache fails with models that contain high-concentration PV panels. [ID-133952]: Error simulating resolved when model contains a high-concentration PV panel.

Model crash due to meter conflict prevented. [ID-47898]: The pump meter for the PLC heating plant now resolves in the Conflict Resolver for PLC plants on a Generic Heat Source and resolves a crash that could manifest when running system loads or Apache simulation.

PV Types option not relevant for High Concentration PV. [ID-50917]: An improvement has been made to remove the PV Types option from the HCPV tab as this option is only relevant for the Parametric and Free-standing tabs.

Updated character restrictions for APP file name [ID-47152]: Restrictions have been updated to prevent an error when generating APP files.

ApLocate

Fixed display of the design weather grid in the ApLocate dialog [ID-128675]: All months are now visible on the grid.

Approved Document O

Approved Doc O - Summary text incorrect. [ID-44629]: Summary text updated in report to remove mistake.

Building Template Manager

Icon-only flat buttons not easily visually identifiable as being disabled. [ID-132918]: Where a button is using bitmaps for its image, the icon is shown greyed if the button is disabled.

Content Store

Updated Extract Proposed and Baseline Results script [ID-46770]: Script now supports building area and space by space template assignments.

Updated Thermal Template Report script [ID-95805]: The script now runs without error when Free-form and Compact profiles are in use.
Note: Free-form profiles and Compact profiles cannot currently be plotted on the report but the name of the profile is listed for reference.

Fixed issue with Content manager TM59 file name [ID-134044]: Content manager now updates to display the file name used on the most recent TM59 Analysis run.

Updated TM59 Analysis Report script [ID-50104]: When running the script, a notification is now presented if a results file already exists.

Energy Sources and Meters

Meters should warn on characters not safe for CSV during export/import. [ID-126412]: When user attempting to name meters with , or / they are presented with a warning that these characters are replaced with ; and \ respectively.

Meter selection option unavailable for fans. [ID-137140]: Resolved an issue that prevented the user from selecting a meter from the fan dialog.

Meters can be deleted when assigned to the model. [ID-134192]: When cancelling the conflict resolver after changes are made to assigned meters, the changes are reverted.

Crash when opening HVAC asp file and replacing meter assignments. [ID-50742]: Resolved error in the code that caused the crash when replacing solar water heater meters in some cases.

General

VE Efficiency improvements. [ID-131469]: The speed and performance of VE is improved in the following areas so that VE is faster to work with when modelling and editing complex models (many rooms, surfaces, openings);
Building Template Manager (legacy interface)
Model Viewer and workspace
Model Browser

For the model drawing improvements OpenGL v3.0 is used, this can be toggled off via Tools >> Preferences >> Model Viewer Settings by switching the Renderer option to GDI which is equivalent to the previous method used and likely to be slower than using OpenGL.

Energy Meter assignment enhanced. [ID-84868]: Assignment of Energy Meters in all interfaces improved to present a hierarchy view/tree structure for speed of identification and assignment in projects with a lot of fuel/sub-meters defined.

VE archive uses *.zip format. [ID-131755]: VE uses *.zip format for archives instead of *.cab. This allows larger projects to be archived and is less likely to be blocked by email filters.
The Archive >> Extract option supports *.zip and *.cab for opening legacy projects.

Software crashes importing gbXML on Chinese region machine. [ID-48705]: VE no longer crashes and the profiles will be correctly displayed in Chinese when using Chinese configuration.

PV panel ID added to name when importing a GEM file [ID-140355]: When a GEM file containing PV panels is imported to the VE the 'Panel ID' is no longer added to the 'Panel Name'.

Kiva

Kiva setting not retained when model is closed after project constructions saved. [ID-127151]: Kiva settings are persisted on saving project constructions not just on saving project.

Loads Report

Corrected error in HVAC System Sizing reports for Active Beam systems [ID-85143]: The Supply (Design) Airflow in Heating and Cooling columns on Zone Conditioning Loads Report pages within the HVAC System Sizing reports now report the correct values.

Script Error (debug_printing) on generating loads report for proposed after using HVAC Wizard. [ID-138142]: Script error resolved.

ModelIT

User cannot change PV type. [ID-84986]: Error preventing user changing PV Type from the toolbar in ModelIT resolved.

Change "Type" to "Object Type" in ModelIT context menu to be consistent with properties dialog. [ID-56157]: Context menus made consistent.

Change "Edit" to "Assign/Edit" in ModelIT context menu. [ID-56518]: Context menus made consistent.

Design options restore option does not delete old results. [ID-45158]: Resolved an issue that caused the deletion of old results when using the restore option via design options.

ModelIT remove door key-in doesn't work. [ID-129409]: RMD key in command correctly removes doors.

PV Error message shown is not an error when panels are touching a surface. [ID-128495]: Error message updated to a "Warning" message and more information is included, this does not prevent the PV panel from being placed.

ModelViewer II

Solar Arc Sun Path Lines no longer disappear. [ID-126133]: Corrected an error which resulted in the Sun Path line disappearing when orbiting from certain angles.

Model Viewer II shows sun and building as white. [ID-48208]: Issue causing Sun and some geometry to lose colour when upgrading model resolved.

Navigator for ASHRAE 90.1 PRM

90.1 2016 PRM Baseline SHW source no longer copies source set on Proposed. [ID-128589]: Resolved an issue when manually editing a baseline SHW source which differs from the proposed, no longer resets back to being the same as the proposed source on saving/reopening model.

PRM: 'EN-ISO' ground contact option not set on baseline model. [ID-44281]: Ground contact method correctly assigned to the baseline construction.

Weather File not set error crashes VE. [ID-128583]: Crash prevented in cases where the weather file is not present when generating the baseline model in the PRM navigator.

PRM Energy results outputs can become unavailable after generating reports. [ID-54236]: Error when generating reports causing results in VistaPro to become unavailable resolved.

Adjusted format of UMLHs section in PRM report [ID-53487]: Line spacing between excluded spaces listed in the report has been reduced.

90.1 2019 Exterior Lighting dialog using wrong units/data source. [ID-135862]: Value displayed for proportion of LPD now in correct units (as per global setting).

Navigator for NECB

Fixed unavailable weather data issue [ID-129934]: Affected weather files have been updated and the data is now available.

Navigator for Title 24

Navigator updated for Title 24 2022 v1.1 [ID-127862]: Workflow updated in line with Title 24 2022 v1.1. Standard model ruleset changes for Healthcare spaces incorporated.

CBECC Residential export incorrect mappings. [ID-128526]: Storage, General and Unoccupied-Exclude from Gross Floor Area templates now map correctly to their CBECC counterpart.

Improved T24 CBECC Multifamily export process [ID-74535]: When performing the 'Export Geometry for CBECC 2022 (Residential)' action, if an export file already exists, a message is now displayed to allow the user to confirm that they want to overwrite it. Also, a cancel option has been added to the inconsistent templates warning message.

Fixed reporting error in PRF-01 report [ID-135478]: The check to determine whether to write 'COMPLIES' or 'DOES NOT COMPLY' to applicable tables was incorrect. The check has been updated and tables now display the correct text.

SARA calculation data was not being retained when making a copy of a project [ID-137313]: SARA calculation data is now retained when making a copy of an existing project using the 'Save Project As...' option.

Updated text in Title 24 Solar Shading Report [ID-137310]: The note text the report has been updated to read as follows: 'PV with an Annual Solar Access of less than 70% is not compliant (highlighted in red text). PV Arrays are to include PV Panels with the same Azimuth and Pitch'.

Health system schedule profile not being applied when serving healthcare spaces [ID-136066]: An issue has been resolved to correctly apply a health system schedule profile when a standard model is generated serving healthcare spaces.

T24 2022 Residential CBECC export: Underground floors should not be specified by Adjacency condition = 'Temp with profile' [ID-132640]: A floor is only exported to CBECC as Underground when the space is denoted as underground by e.g. its walls. (rather than floors) having the Adjacency condition 'Temp with profile'.

T24 CBECC Residential export with duplicate Zone names: warn user. [ID-133830]: Exporting to CBECC when Zone names are the same warns the user and text updated to highlight this within the navigator.

Resolved an issue with the "Enable sizing" checkbox not being checked with a standard model for Healthcare systems. [ID-136013]: Using a system that serves healthcare spaces, when a standard model is generated, the enable sizing checkbox in System Parameters no longer remains unchecked.

U-values of the construction in Table G5 are different from the ones in Apache. [ID-135476]: Correct U-values now displayed in table G5.

Assigned variation profiles are now retained when reopening a model [ID-137318]: Infiltration variation profiles would be reset to the default modulating profiles when a model was reopened.

The results summary now displays the correct results when the design file is selected [ID-137353]: Previously when generating a Summary Report with the design file selected the proposed file results would be reported. The correct results are now reported.

DX efficiency for Proposed model is now based on total sized cooling capacity. [ID-133959]: Efficiency value was previously being calculated based on unsized capacity.

RadianceIES

Translucent Shade option added. [ID-81680]: Translucent Shades can be drawn in ModelIT. Transmittance properties can be edited via the Construction by entering Visible Light Transmittance or editing RGB values as with Windows.

Grid values can be shown in Model Viewer. [ID-51081]: When viewing results on the WP Grid tab after dynamic simulation the values shown on the grid are displayed on Model Viewer via the Visualise option. Note: to switch off the values and view only contours use the Filter slider.

Radiance SDA results corruption and working plane area not in line with room. [ID-50940]: Error causing working plane area to not correctly line up with rooms in some cases resolved.

BR 209 Illuminance simulation doubling daylight hours count. [ID-134567]: Resolved an issue when running the BR 209 Illuminance simulation with the daylight hours count being doubled after running the calculation.

WPD display not filtering grid. [ID-136866]: Error causing values outside of space to show resolved.

Divide by zero in calculating "[MMA]" data. [ID-134971]: Error prevented when calculated average causes error "nan(ind)" now outputs as 0.0.

Daylight Factor result is more than 100%. [ID-48120]: Daylight factor values now capped to 100%.

AOI Limit Depth range only performed when ok dialog. [ID-47141]: AOI limit dialog identifies when the Limit Depth field is out of range immediately rather than on ok to prevent incorrect values being saved.

Artefacts in MV2 display of radiance results. [ID-131451]: Change to the algorithm preventing artefacts caused by overlapping polygons.

Improved model geometry robustness [ID-131229]: Resolved an issue due to specific model geometry that allowed light to erroneously spill into the space.

Corrected error in reported 'Hours above threshold' value [ID-131225]: UDI daylight availability results now show the correct 'Hours above threshold' value.

Reports

Loads report Table of Contents added. [ID-46989]: The Loads Report has a Table of Contents added at the start to list out the report sections and page references.

Loads report updates when no HVAC system present. [ID-46991]: The room and zone loads report can be generated with no ApacheHVAC system associated. In this case Support (design0 airflow values are calculated from Space Data inputs and similarly Ventilation (requirement) and Exhaust (requirement) volume flow rate is taken from Space Data.

Room-Zone Loads Spreadsheet blank row 10 present. [ID-45358]: Blank line removed from xlsx report.

Resolved erroneous colour highlights on Room-Zone Loads & Sizing Reports Spreadsheet. [ID-131619]: The Min RH setpoint and Humidification load colours have been updated to use the red colour key.

SunCast

Solar Analysis - Incorrect Grid formation while running the simulation. [ID-85350]: Error causing grid size to be non-uniform resolved.

Solar exposure analysis threshold displays correctly in ip units [ID-133715]: The area above threshold is correctly displayed whether unit is m2 or ft2.

Fixed gradient scale display for solar exposure analysis [ID-131636]: Relative gradient scale is now displayed correctly. Additionally, the absolute gradient scale now shows the correct number of hours based upon the selected range.

VE Compliance

Output Options mistakenly opening on model load after using Tabular Space Data in VE Compliance. [ID-131844]: Error causing wrong dialog to open in some cases resolved.

Fixed display issue in Part L (2022) - Ireland (Factor update) Results tab [ID-133960]: The BER and Band results are now displayed with the BER chart colour.

Incorrect system ID, becoming out-of-sync with the "Use same system." [ID-133548]: Check put in place to verify that systems do not become out of sync this will happen automatically on view entry, prior to simulating, changing activity etc. This aligns aux and DHW system to match with main space conditioning system when 'use same system' option is selected.

District heating primary energy factor only being used to 1dp. [ID-130797]: District heating primary energy factor now used up to 3 decimal places.

VE Scripts

VEScripts create_compact_profile.py example script creates invalid profile. [ID-45133]: Example API script updated to create valid times for profile by default.

VE fatally asserts when calling iesve.ApacheSim().get_options() in VEScript. [ID-48552]: Error causing example script to fail resolved.

Importing GBXML via Python on an unsaved model causes a crash. [ID-49566]: Crash no longer occurs when importing GBXML on an unsaved model.

AIA - Firm Key and User Key details not retained. [ID-48387]: An improvement has been made to the Upload Data to DDx link in navigators to retain Firm Key and User Key details, stopping the user from having to re-enter the details each time this link is clicked

VistaPro

VistaPro sessions loses room variables selection when reloaded. [ID-45022]: When selecting a set of room variables and saving as a VistaPro session, when reloading the Session all selected variables are correctly restored.

VistaPro sessions do not load in IP units. [ID-48924]: VistaPro sessions can be saved and loaded in IP units.

Unable to confirm HP energy is being reported correctly. [ID-45369]: Variable display name changes to highlight more specifically what the variables are used for to prevent confusion in reporting.

Prevented error when using range test tool [ID-84810]: An error no longer occurs when switching between results files when using the range test tool.

Fixed error in Energy Report script [ID-48995]: The Energy Report script now runs without showing a KeyError error when the Anthracite fuel option is selected.

Fixed error is Energy Report script [ID-124525]: The Energy Report script now runs without showing a KeyError error when the Waste Heat fuel option is selected.

VE 2023 Feature Pack 01 Changes

ApacheHVAC

Central Plant (Air-to-Water & Water-to-Water) Heat Pump. [ID-127242]: Updates

Heat pump meter assignments reset. [ID-129326]: CPHP and Air to Air heat pump dialogs changes to meters persist correctly on closing the dialog.

ApacheHVAC System's Zones and Project's Zones out of sync. [ID-44593]: Prompt to save .mit file after editing zones in the wizard added to prevent any issue where the VE is closed straight after editing without saving.

Controllers have multiple issues with Sensed Variable and On/Off Setpoint Data Table view and editing. [ID-44577]: Data table view now correctly displaying values from sensed variable when edited and values being reset correctly.

User library chiller curves not displaying correct units for part load ratio. [ID-47859]: Warning message added to notify user of missing information from curves and defaults applied.

Increase room unit 'number of units' limit. [ID-48589]: Increased limit on 'number of units' parameter in Room Radiator / Chilled ceiling from 1000 to 2000.

Cooling tower/fluid cooler IDs not unique on import. [ID-126991]: Cooling tower/fluid cooler IDs no longer duplicated on import from library.

Prevented Pump ID error related to thermal storage. [ID-127206]: Pump ID error caused by adding thermal storage loop on chilled water loop no longer occurs.

Auxiliary Heat Source auto-sized colour reverts to blue after any external change to Ref load. [ID-127249]: Making changes after auto-sizing now correctly reverts the displayed colour of Reference Load to default blue.

Auxiliary Heat Source UI general improvements. [ID-127252]: Inconsistency in dialog with other loop windows and general improvement to Auxiliary heat source interface.

Updated names for CPHP CHWL & HWL in equipment library. [ID-127280]: The naming of CPHP CHWL & HWL is now consistent between the HVAC System Wizard and the equipment library.

EWC chillers not showing auto-sized status after running system level sizing. [ID-126244]: Auto-sizing highlighting now showing correctly for EWC chillers.

Fixed incorrect Controller Link setting in prototype system 07b. [ID-85360]: The System Parameter Link in the Differential Enthalpy controller is now "OA econ diff enthalpy".

VE crashes when pressing the Enter Key on the cooling coil window. [ID-74065]: Potential for a value to be null resulting in a crash prevented.

ApacheSim

PV panel rated power displayed as 0 on upgraded models. [ID-126928]: When upgrading an older model that contains a PV panel and opening the electricity generators dialog, the calculated Rated Power is now correctly displayed.

Apache Systems

Corrected Apache Systems UI issue. [ID-126377]: On the Hot water tab the 'And thickness (mm)' field is now disabled when the 'Insulation type' option is set to Uninsulated.

ApPro

Profiles in use checks improved at simulation time | > Error: XXXX: no definition found for profile. [ID-125970]: Profiles in use checks now include the CHP heat matching strategy profile and correctly writes this out to the .pro file at simulation time. Other missing checks added for Ground Reflectance profile and Breathing Buildings operation profile.

Apache Loads sim fails with a Profile missing error for Yearly substitute profile. [ID-129625]: When a Yearly profile is set as a substitute profile (either via the Profile Substitution Table in ApPro's Edit menu, or direct in the edit UI as Associated Profile for Free Forms and Scripted), the weekly profiles are now being considered as in-use and correctly included for simulations.

Constructions Database

Condensation Analysis chart doesn't update when edit Boundary conditions. [ID-125039]: Condensation Analysis chart now updates when boundary conditions are edited,

FlucsDL

VE crashes on running FlucsDL twice. [ID-45825]: Running a second simulation no longer crashes the VE.

FlucsDL producing incorrect results, high lux values on interior space. [ID-48652]: Error causing the Radiance results to be read in the wrong order resolved. The Lux results and DF results are no longer switched.

General

Hiding browser panel means it can become out-of-sync with model when reshown. [ID-129570]: When the browser panel has been previously hidden when changes to the model have taken place, the browser will now be automatically repopulated when it is next shown.

Install screen for VE2023 shows VE2022 applications suite. [ID-128004]: Typo fixed on installer screen.

Loads Report

Time to Generate "Room Loads Report" Varies Between VE2022 & VE2023. [ID-130022]: Unnecessary step when generating report removed in cases where it's not needed brought generation of reports and simulation back to similar levels.

ModelIT

Place openings dialog range error problems. [ID-124483]: Out of range error no longer occurring and conversion when using different unit types fixed.

Prevented crash when using 'Missing spaces' functionality. [ID-128010]: Crash no longer occurs.

Edit room groups dialog loses selected row when moving groups up/down. [ID-45376]: Selection retained when reordering the room groups.

Crash importing BIM file with simple assignment and overridden inner volume protection. [ID-53570]: Crash no longer occurs when importing gbXML file using the Geometry + simple assignment method, and with the BIM setting "Remove override protection from imported inner volumes" ticked.

Navigator for ASHRAE 90.1 PRM

Number of rooms shown in the PRM Compliance report does not change with "Exclude non-master rooms in HVAC zones from UMLH tests" setting. [ID-45804]: Fixed the discrepancy between proposed and baseline number of rooms.

Florida Compliance Report Won't Generate - VEScript Terminated. [ID-130585]: Error in report generation resolved.

ASHRAE 90.1 2016 PRM Nav > "Cost Savings Summary table 1.8.2 (b)" option produces table which omits effect of PV in summary of total cost and energy, and also % energy and % cost savings are not displayed. [ID-124939]: Values now correctly reported in table.

Navigator for OneClick LCA

OneClick LCA export in IP units outputs wrong frame area and thickness. [ID-56210]: OneClick LCA excel export now outputs correct frame area and thickness in IP mode.

Navigator for MEPWorx

MEPWorx – Navigator [ID-81983]: New navigator added.

Navigator for NCC Comfort

NCC Comfort – Navigator. [ID- 81698]: New navigator added.

Navigator for NECB

NECB Report Won't Generate - VEScript Terminated. [ID-130582]: Error in report generation resolved.

Navigator for Title 24 2022

Title 24 2022 - Version 2.0. [ID-126674]: SARA reporting updates.

Proposed model with mixed return/relief fan use causes problem with standard model generation. [ID-125183]: When the proposed system has a configuration that results in a standard system being generated with multiplex layers with and without return/relief fans the return fans on the baseline model are excluded from the calculation. For clarity these fan components will still appear on the network but when selected in VistaPro no associated variables are available.

Switching between Standard and Actual model doesn't immediately update. [ID-128470]: When switching between models within Title 24 navigator the model now updates on selection correctly without needing user input.

Output XML for Title 24 model doesn't fully validate against PRF01 schema. [ID-127961]: Missing tags added, Job Title for responsible Designers updated to be available if the person is added to the list.

Provided error message when attempting to run a Title 24 annual energy simulation with outdated solar access study results file. [ID-128010]: An error message is now displayed when the solar access study results file is outdated.

'unspecified meter reading error' on simulations when process loads are assigned. [ID-128439]: Error with no meter assigned when adding process loads for Refrigeration, Elevators or Escalators no longer occurs.

RadianceIES

Radiance dynamic (rtrace_dc) randomly fails when simulate more than one room. [ID-45128]: An issue with a temporary file not getting deleted in some cases causing an issue with multiple rooms selected resolved.

Poor feedback when visualise is selected without rooms or at the wrong level. [ID-48342]: WPGrid tab updated to disable the Visualise button when not applicable.

Working plane/wp grid preview not drawn when select multiple spaces. [ID-48513]: When multiple spaces are selected and a relevant calculation type is selected the working plane grid is now shown for all selected spaces.

Radiance (dynamic) sensor calculation generates results file. [ID-130303]: When performing a dynamic Radiance sensor calculation, the results file (.ril) is generated correctly at the end of the simulation.

Radiance (dynamic) sensor calc fails with 'access denied error'. [ID-130039]: Running radiance dynamic simulation with sensors no longer fails to complete due to access restrictions.

Radiance fails to run without 32-bit MSVC 2013 runtime installed. [ID-124690]: VE 2023 installer now includes all dependencies needed.

Adjacent buildings showing working plane and dynamic analysis grid points on RadianceIES workspace. [ID-85052]: Grid points and working plane are only drawn for rooms that will run analysis, not shading objects or Adjacent Buildings.

SunCast

Solar Energy Analysis performance improved for complex models. [ID-129015]: Error when running Solar Energy Analysis prevented when running SunCast for large models (or with a high grid resolution on surfaces) in some cases.

Annual probable sunlight hours numbers not shown if room name contains a comma. [ID-124183]: Comma in space name no longer results in table entry being lost.

VE Compliance

Part L 2022 Ireland (iSBEMie_v5.6.a) (SBEMie) [ID-52013]: Added.

Section 6 2022 Scotland (iSBEMv6.1e) (DSM/SBEM). [ID-124996]: Added.

Section 63 2022 Scotland (iSBEMv6.1e) (DSM only) [ID-126370]: Added.

Section 6 2022 - Notional Building Mechanical Supply SFP is editable (and also zero). [ID-85431]: Mechanical Supply SFP is no longer editable and is the correct value on the notional building.

Corrected error in Section 6 (2022) - Scotland ApacheSim - EPC results. [ID-126062]: Electricity generation is now correctly accounted for to provide a BER value in line with SBEM - EPC results.

Notional building 'Terminal unit SFP' is editable. [ID-130354]: Terminal unit SFP is no longer editable on the notional building.

ERROR: Activity with ID:0 is not valid for Shell & Core Building in Part L2 2021. [ID-130172]: Error resolved in reporting generation when using Shell & Core Buildings, values written out to BRUKL when a system serves only a shell area is in line with BRUKL expectation.

Part L Wales 2022 ApacheSim BRUKL shows District Heating factors when not in use in building. [ID-128763]: Unused district heating factors no longer written out.

Can't run compliance due to substitute profiles not found. [ID-127259]: Issue when running compliance sims when free forms profiles are present in ApPro resolved.

VE Scripts

Weather file get /set. [ID-51101]: New functionality added to the API.

Building rotation set. [ID- 124521]: New functionality added to the API.

UK Carbon emission factors. [ID-127275]: UK Carbon emission factors proflies added to the VE by default and example script added to the content store.

Promoting a script with a filename that begins with a number or contains a space causes the VE to crash. [ID-50752]: Promoting a script that begins with a number or contains a space no longer crashes the VE.

Python Update to VERoomData > set_apache_systems(data). [ID-47813]: set_apache_systems(data) updated to include 'extract_SFP' as a key.

VE silently crashes when getting internal gain data through python. [ID-49194]: Intermittent crash, code is more robust.

VistaPro

Crashes when attempting to select multiple cooling coils. [ID-48717]: Selecting large amounts of cooling coils in VistaPro no longer results in a crash.

IndexError: list index out of range when running Energy Report. [ID-127799]: Error when generating energy report no longer occurs.

Prevented Tariff Analysis Report generation error and crash. [ID-81350]: Generating a Tariff Analysis Report with 'Generic' energy dataset option selected no longer results in an error/crash.

VE 2023 HotFix 01 Changes

Apache

Corrected text for the hourly profile combo in the Energy Sources and Meters dialog when there are no absolute freeform profiles with the category 'Emissions Factors' [ID-127725]: Label is now set to 'None'.

EU Navigator

PMV optimiser doesn't run [ID-128283]: Permissions error resolved; when running the script it was trying to write in to the script directory, now writing to the project directory.

General

Crash when switching applications with rooms browser hidden [ID-43738]: Crash prevented when Browser pane disabled and switching between applications.

Browser dialog shows over Navigator dialog [ID-126128]: Display error after switching between applications resolved.

ModelIT

Fixed UI issue in Grid settings dialog [ID-123677]: The X-Axis and Y-Axis fields in the Grid settings dialog now retain the inputted values.

Navigator for Title 24 2022

Fixed issue with Table G8 in PRF-01 Report [ID-127779]: Table G8 no longer appears in the PRF-01 report when no overhangs are present.

Corrected error in PRF-01 report Table C1 [ID-128349]: Pass/fail is now written out correctly.

PRF-01 won't generate due to a negative overhang [ID-128055]: Overhang value clamped to 0 to prevent error when generating the report.

Prototype Model Update to Prevent Instability Error [ID-128067]: All standard roof constructions and metal building wall constructions have an inside layer of metal rather than insulation.

Fixed issue with DHW source negative efficiency value [ID-128109]: DHW source efficiency now provides a positive value.

Adjacent buildings and Topographical shades are included in the T24 standard model [ID-128141]: Adjacent buildings and Topographical shades are no longer displayed on the standard model.

Further Prototype Model Update to Prevent Instability Error from Doors [ID-128139]: Door constructions updated to prevent instability errors during simulation.

Radiance

sDA simulation is giving invalid results (count % > threshold shows inf, average lux values very large negative) [ID-128133]: Error causing wrong results in sDA processed output fixed.

SunCast

Inactive layers correctly processed [ID-128597]: When model contains rooms with openings on an inactive layer the correct exposure coefficients are written to the shading file for Apache.

VistaPro

Fixed error in Energy Report script [ID-127797]: Energy Report script no longer fails when model heating is served by electricity.

VE 2023

ApacheHVAC

Central Plant Heat Pump modelling option added. [Id-52062]: Air to Water and Water to Water Heat Pump modelling options added that can be used as heat/cool source on hot water and/or chilled water loops.

Auxiliary Heat Source option added. [Id-51783]: A Hot Water boiler or Part Load Curve heat source can be specified downstream of the hot water loop primary heat source.

HVAC Wizard improvements. [Id-126626]: Fixed issue where Primary Cooling and Heating sources for the AHU coils were not editable on the Waterside and Plant Equipment Selection page and issue with importing multiple systems via the wizard where IDs became duplicated.

Fixed issue with 'Design - Waterside and Plant Equipment Selection' page in HVAC Wizard [ID-122590]: When editing an existing file in the HVAC Wizard no additional plants or water loops were available for selection. This has been corrected and all plants and water loops are available for selection.

Unchecked state for Set Design cooling capacity of chillers on CHWL relative to CHWL capacity works only for manual editing of CHWL Capacity, not for Autosizing. [ID-44729]: When the set design capacity option is unchecked only the % capacity value is updated after auto-sizing. The checkbox is hidden when the 'Force loop capacity...' check box on the Chilled water loop tab is selected.

08b HVAC System has Incorrect Default Link for Dry-bulb Sensor/Controller. [ID-44986]: System 08b now has the default link for the specified controller set to Cooling coil - AHU cool LAT

ApacheSim

Energy Meters interface enhanced [ID-52057]: The Energy Meters interface is updated to allow easier creation and management of meters (and sub-meters) for large projects.

Total Electricity variable discrepancy resolved [ID-47199]: The Building Energy Total Electricity variable matches the value reported under Electricity in the Meters and End Uses variables.

Approved Document O

Approved Doc O: 2021 Overheating Script improved. [ID-123781]: Generating the overheating report in some cases caused the application to stall, this has been resolved so the report can generate.

Building Template Manager

Missing profile data in BTM Comfort tab has been fixed [ID-73938]: The BTM Comfort tab now displays assigned profiles and profile options are available for selection in the dropdowns.

Component Library

Component items wrongly identified as selected in ModelIT. [ID-84569]: Components are no longer incorrectly shown as selected when going down to component level.

Constructions Database

Corrected link in Project Construction - Glazed: Electrochromic Control Function. [ID-81632]: Link updated top open the online Help site.

Content Store

Extract proposed and baseline content store script error with PCI calculation. [ID-48879]: The PCI in the graphic and the table are matching and when set to 4 d.p the value is as expected. The EUI calc has corrected the MMBtu to kBtu conversion.

Design Options

Design options crashes VE if project name/path contains extended-ascii character. [ID-44989]: Creating new design option does not crash the VE if the project name/path contains extended-ascii characters i.e.ø, etc.

Energy Sources and Meters

Energy Meters can crash the VE. [ID-124921]: VE meters no longer crashes the VE when attempting to create its internal structure due to naming meters the same.

General

Standard Data and Weather files being re-installed when not required. [ID-123961]: Duplicated Shared Content no longer being installed.

Standard data and weather files out of date download link updated. [ID-45976]: The link has been updated when an older version of Shared Content is detected to direct the user to download the latest 64-bit version.

False Alert removed - Unsupported Energy Sources in Electricity Generators. [ID-84368]: Alert no longer incorrectly displayed to the user.

Updated 'DHW Zones' grouping scheme [ID-43309]: The 'DHW Zones' grouping scheme can no longer be renamed. A new 'Non-ApHVAC spaces' room group has been added alongside the existing 'Plenums and Voids' group. This new group will contain all space types other than rooms using the 'ApHVAC' HVAC methodology option to prevent these from being placed in a DHW Zone. When upgrading a model any applicable spaces will be placed in this group automatically.

Kiva

Fixed issue with kiva deep-ground boundary condition selection [ID-124945]: The selected deep-ground boundary condition option now persists after closing the kiva settings dialog and upon loading a saved project.

Failed to create foundation geometry because of multiple ground floor foundation polygons detected. [ID-89350]: Error when calculating and writing to Kiva foundations file fixed in certain geometry cases.

Kiva - Controls at Insulation details tab will be converted to a 'PLACEHOLDER' or 'Static' pressing the 'Enter' key. [ID-124573]: Kiva Insulations detail dialog no longer displays placeholder labels over correct displays.

Investigation for crash in third party KIVA (ASHRAE loads calc impacted) [ID-81828]: Third party Kiva library updated preventing crash.

Kiva foundation zero-volume blocks should not be allowed [ID-74417]: Insulation blocks now require a min value of 0.001cm to be entered for width and when attempting to enter a lesser value this is prevented with a warning message.

Kiva foundation custom blocks should allow some negative values [ID-74418]: Kiva foundation custom blocks now allow negative values for X pos, Depth and Width.

MagiCAD Navigator

MagiCAD Navigator added. [ID-82806]: A Navigator is available to allow Heating and Cooling Loads calculation results to be exported out to MagiCAD via CSV.

MicroFlo

45 deg rotated CFD component not showing results. [ID-124900]: CFD simulation now displays results for the rotated component, error caused by the way component broken down during simulation.

ModelIT

Inconsistent behaviour with locks/snaps when using the Add window/door to wall (in Plan) tool. [ID-81076]: Width setting no longer superseding the grid setting causing strange behaviour when placing openings/windows.

Units error on Object Bar for annotation location. [ID-122535]: The x, y, z, radius and height values are displayed and converted correctly for labels/trees when switching between units.

Navigator for ASHRAE 90.1 PRM

90.1 2013 ECB prototype data ApacheHVAC PTHP efficiencies are not correct (DX Cooling Types) [ID-45021]: The two DX Cooling PTHP units have been updated in the PRM systems library so that they now match the lower ECB units.

Florida compliance report shows room floor area value in m2 instead of ft2. [ID-56181]: Report now shows value in ft2 and has the units in the column header.

Navigator for NECB

Error Occurred: KeyError('ROOMID') due to use of voids. [ID-81633]: Error when generating the NECB report prevented when models contain Voids.

Navigator for Title 24 2022

Navigator for Title 24 2022 added. [ID-52066]: The Navigator for Title 24 2022 is approved to give a fully accredited alternative compliance solution for the Title 24 2022 code cycle.

Navigator for Title 24 2019

T24 CBECC Multifamily export – ResidentialOtherZone support added. [ID-51684]: Models containing spaces marked as ResidentialOtherZone can be included in xml that is accepted when imported to CBECC.

RadianceIES

BRE 209 Simulation option for seasonal variation of foliage added. [ID-52189]: Analysis option to assess BRE 209 allows simulation of Daylight Factor and Annual Illuminance taking into account seasonal variation of foliage (trees and hedges).

Radiance multi view doesn't load UDI-C results. [ID-125373]: Multiview can successfully display all working plane grid results file types.

Discard NULLdata when counting hours in CBDM results. [ID-82541]: When running a CBDM simulation Null values are no longer reported as daylit hours. This affects total number of hours reported for each room so it only includes hours daylight is present in the room and any associated % time metrics.

Multi-view can show values on grid points. [ID-126078]: Multi-view extended to give option to display the values for each grid point as well as colour bands when viewing results of dynamic simulation on WP Grid tab.

Reports

Prevented crash when generating heating and cooling report [ID-44581]: Prevented a crash when using compliance simulation results to generate heating and cooling reports in VistaPro after generating a report using the notional or actual .aps file the VE would crash when attempting to generate another report using the other .aps file.

Loads report script error KeyError: 0 corrected. [ID-43255]: Loads report script improved to handle case that previously caused KeyError: 0 in some models

SunCast

SunCast solar energy or exposure analyses - objects on layers that are OFF are included. [ID-129651]: Layers that are configured to be off are no longer used within the SunCast simulation.

Solar energy analysis - result Display unit corrected. [ID-84394]: Energy units displayed when viewing solar energy results on model viewer 2 instead of displaying energy values with Hours shown as units. General legend improvements to improve display.

Tabular Space Data

Paste from clipboard data in cfm units doesn't get pasted in primary and exhaust air change requirements. [ID-50670]: When the Primary and Exhaust Air Change values are pasted in from Excel (or imported from a tab-delimited/csv file), the value correctly respects the appropriate unit that is indicated in the import data (as specified Primary Air Change Req. Unit and Air Change Req Unit columns on the row).

VE Compliance

Text missing from Calculated useful generation capacity is exceeded message in Section 6 2022. [ID-123993]: Full text correctly displayed when relevant.

Model combo indicates Notional building active even if creation of the notional failed. [ID-73081]: Without a valid model messages will show when trying to switch buildings, the existing one telling you to set the building type or a new error will be shown saying the NB can't be created due to a zero floor area. If the model is valid, then tab edit will display the correct text when switching between buildings.

Unknown keyword in rooms file: GL. [ID-125251]: Issue resulting in incorrect thermal template being assigned in some cases resolved.

VE Scripts

Python API - VEMacroflo.set() not updating dependent vars. [ID-47815]: Dependant variables/span updated as expected in tabular MacroFlo data dialog, after running python script. The values are also updated in types dialog.

Adaptive comfort variables cannot be read from Python API. [ID-89368]: Basic Adaptive comfort variables now return valid results from the Python API.

VistaPro

N/A (no value) variables are plotted on charts. [ID-47668]: N/A values are no longer being plotted on VistaPro charts.

Fixed error with hours in range test tool run over year end [ID-47863]: When a simulation was run over year end the range test tool was not accounting for any hours beyond December.

Units for annual water corrected. [ID-74795]: The IP unit of annual water correctly displays 1000 gallons instead of 1000 cu. Ft