

# SAP2000® Version 16.0.2 Release Notes

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**Notice Date: 2013-10-31**

This file lists all changes made to SAP2000 since the previous version. **Most changes do not affect most users.** Incidents marked with an asterisk (\*) in the first column of the tables below are more significant and are included in the ReadMe file.

## **Changes from v16.0.1 (Released 2013-10-02)**

### **Modeling**

#### **Enhancements Implemented**

| <b>*</b> | <b>Incident</b> | <b>Description</b>  |
|----------|-----------------|---|
|          | 59293           | New standard sections have been added to the Australian/New Zealand section-property database file AusNZV8.pro. The new sections included are the Steel I HCC, HCB and HCBC sections. |

### **Application Programming Interface**

#### **Enhancements Implemented**

| <b>*</b> | <b>Incident</b> | <b>Description</b>  |
|----------|-----------------|---|
|          | 58766           | New functions have been added to the OAPI to specify which section cuts are selected for output: SapObject.SapModel.Results.Setup.SelectAllSectionCutsForOutput, SapObject.SapModel.Results.Setup.SetSectionCutSelectedForOutput, and SapObject.SapModel.Results.Setup.GetSectionCutSelectedForOutput. In addition, the functions that define section cuts now set newly defined section cuts to be initially selected for output; previously the default for newly defined section cuts was not to be selected for output. |

### **Installation**

#### **Enhancements Implemented**

| <b>*</b> | <b>Incident</b> | <b>Description</b>  |
|----------|-----------------|---|
|          | 59186           | An enhancement has been implemented to check for updates when the program starts and inform the user if a new version is available. This check is also manually available from a new menu item, Help > Check for Updates. |

## User Interface and Display

### Incidents Resolved

| * Incident     | Description   |
|----------------|---|
| 58679<br>58818 | An incident was resolved in which a runtime error was generated when editing the contour range values for the display of soil pressures. This was a user interface issue only and did not affect results. In addition, the plotted results were always being displayed in database units, irrespective of the units chosen in the units dropdown. |
| 58967          | An incident was resolved in which a runtime error was generated when using the command Display > Show Misc. Assigns > Links. No results were affected.  |

## Graphics and Drafting

### Incidents Resolved

| * Incident | Description   |
|------------|---|
| 58892      | An incident was resolved in which the display showing design P-M ratios above a user specified value would be reset to showing all values after any screen refresh caused by panning, zooming, etc. This was a display issue only and did not affect the results. |

## Analysis

### Incidents Resolved

| * Incident | Description  |
|------------|--|
| * 58798    | An incident has been resolved where the mass source, when specified to be from loads, may have used the incorrect load patterns for point loads assigned to joints. This error did not affect the default mass source, which is from element mass and additional mass, and it did not affect mass source from loads on elements other than joints. The following is a more detailed description. This error could occur when the loads at a joint had not been assigned to all load patterns in sequence from the first defined load pattern and including all load patterns used for mass source. For example, if the first three load patterns were "A", "B", and "C" and no loads had been assigned in load pattern "A" for a particular joint, then any loads assigned in load patterns "B" and "C" for that joint may have been incorrectly used to calculate mass source. If any loads were assigned at that joint in load pattern "A", even if not used for mass source, no error would occur. The common case where loads used for mass source were assigned to the first load pattern, "DEAD", was not affected. This error affected versions 16.0.0 and 16.0.1.                  |
| * 59178    | An incident has been resolved where incorrect results could have been produced for a linear load case that applied a strain or temperature load to frame objects if that load case used the stiffness from the end of a time-dependent staged-construction load case where the modulus of elasticity of the loaded frame objects varied with age. The most notable effect of this error was for the forces and stress in the frame objects that had both the applied strain or temperature load and time-varying elasticity, although the displacement results could also have been incorrect, having a lesser effect on other response in the model as well. Only the specific situation described was affected. Only version 16.0.0 and 16.0.1 were affected.  |
| * 59823    | An incident has been resolved for rigid-body constraints where the coordinate system used for the constrained rotational degrees of freedom (DOF) was not always correct in the following restricted cases: (1) All three translational DOF were constrained and either one or two rotational DOF were constrained. (2) No translational DOF were constrained and either one or two rotational DOF were constrained. (3) Two translational DOF were constrained and two rotational DOF were constrained, but the two pairs of DOF were not along the same pair of axes [for example, UX, UY, RX, RZ]. (4) Two translational DOF were constrained and one rotational DOF was constrained along the same axis as one of the two translational DOF [for example, UX, UY, RX]. Constraints where all three of the rotations or none of the rotations were constrained were not affected. Common constraint cases were not affected, for example: Diaphragm [UX, UY, RZ], Plate [UZ, RX, RY], 2-D Beam [UZ, RY], 3-D Beam [UY, UZ, RY, RZ], Shaft [UX, RX], Full-body [UX, UY, UZ, RX, RY, RZ], and permutations of these. Equal and Local constraints were not affected. Weld constraints were |

| * | Incident | Description  |
|---|----------|--|
|   |          | affected for the same selections of DOF's as affected Body constraints. When this error occurred, the selected rotational DOF were constrained about an axis or axes that may have been different from those specified; these axes were model-dependent and were not easily predicted. This error, while not common, affected all versions prior to v16.0.2. |

## Results Display and Output

### *Incidents Resolved*

| * | Incident | Description   |
|---|----------|---|
|   | 58663    | An incident was resolved where right-clicking a line object to show the detailed diagrams while displaying frame forces or stresses could cause a runtime error if the user had set the number of decimal places for Absolute Distance to be 8 or larger using the command Options > Set Program Display Units. This error was not common and did not affect any results.   |
|   | 59655    | An incident was resolved for joints with a local axis rotation assignment, in which the values shown for joint displacements at the cursor when scrolling with the mouse were in the global coordinate system instead of the joint local coordinate system values. The right-click form and database table showed the correct joint local displacements. This was only a discrepancy in what results were being displayed and did not affect the overall analysis results. This affected versions 16.0.0 and 16.0.1 only. |

## Miscellaneous

| * | Incident | Description   |
|---|----------|---|
|   | 58846    | The version number has been changed to v16.0.2 for a new minor release. |