CANDE-2007(2011 Updates) (Release 1.0.0.7)

The following updates are included for release 1.0.0.7

- **April 21, 2008.** In Subroutine BMResultXML there was an error in Format 9080 in writing RESULT (14,n). Specifically there was an extraneous number 1 following the format field, 'E14.6' which caused the wrong exponent for the PA* variable in the Graph plots and Report Generator.
- **May 6, 2008.** Subroutine STIFNS was modified to handle incremental displacement boundary condition loading over the entire load step schedule. The original version of CANDE-2007 is limited to inputting non-zero specified displacements only on the first load step. This limitation is now removed.

- **October 28, 2008**. Modified Subroutine READM to correct error in distinguishing canned soil models between Duncan and Duncan/Selig forms. MATNAMs are not all unique, that is, CL85 and CL90 are names common to both Duncan and Duncan/Selig model names. CANDE now uses IBULK = 0 or 1 to distinguish which model the user is requesting. No change of input is required.

- **January 17, 2009**. Improved convergence of Duncan and Duncan/Selig Soil model for the case when there is chattering between the tension failure path and the normal compression path. Once the tension path has been activated for any iteration during the load step, we set STHARD (NEL,3) = 1, so that all subsequent iterations in this load step will follow the tension path. Note that STHARD(NEL,3) was not previously being used in the Duncan Subroutine.

- **April 14, 2010**. The bandwidth minimizer was discovered not to work well when "unused node numbers" are present in the mesh system. Unused node numbers are those nodes that are not included in the connectivity array of any element. The fix is related to the selection of Node-2 for the swap, where we must enforce that "unused nodes" are not candidates for swapping. The fix is working well.

- **June 23, 2010.** Introduced "initial gap" capability into interface element. In essence the initial gap means the contact nodes I and J stay in the free-free state until the relative normal displacement of nodes I and J close the gap. After the gap closes the interface behaves exactly as it did before. This feature requires a new material input property called the "initial gap", which heretofore was assumed to be zero. Thus, the new set of interface properties on input line D-2 are; interface angle, friction coefficient, tensile break force and initial gap (XNGAP) where the initial gap is read in columns 30-40, a space that was previously blank. Thus if the input value is blank (or zero) then the interface element behaves exactly like before.

- **July 31, 2011**: Changes to allow CANDE to function in the Windows 7 operating system.

- **July 31, 2011** – Modification to the menu input system for the GAP command for input line D-2.

- **Jul 31, 2011** – Updates to the User Manual and corresponding help file.