## Selected User Problem Resolutions

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*Resolutions for several long-standing user problems are reported.*

## Introduction

Various older user problems were resolved in the last quarter. Some of the highlighted fixes include user problems 15002, 15003, and 15005.

## Resolutions

UP 15002 was identified by an external user when the pitch.i test problem failed backup verification testing. The problem passes backup verification testing if only the last time step is checked, but a number of intermediate time steps show differences in the verification file. The problem was traced to the inertial valve component. The variable 'athrot' (valve throat area) needed to be stored on backup. This variable was added to the backup and the verification failures were eliminated. This problem now runs correctly on backup.

UP 15003 was encountered because a problem failed with an array out of bounds for the level model. The issue was found to be due to a loop index that was not correctly incremented due to a cycle statement. The cycle statement was replaced with a 'go to' statement that incremented the loop index. This correction was compared to earlier versions of RELAP5 and showed to be correct. The problem no longer fails with an array out of bounds error.

UP 15005 was found while running DA restart problems on an intermediate code version. The problem failed due to the deletion of a table on restart. When the table is not deleted the problem runs. An input deck was developed as a part of this problem to test the delete functionality for the material data, general tables, and control variables. The material data restart delete also caused a failure. An erroneous pointer nullification was found to cause the error with the general tables. This nullification was removed and the problems now work. The material data needed an additional 'go to' statement added to allow the delete functionality to work properly. The test input deck was added to the run directory to test this functionality consistently.