

P21 93061

January 15, 1993  
G-1151-JMK-93-023

NRC Operations Center  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

- Reference:
- a) Boeing Letter G-1551-RSO-365 dated August 31, 1992; R. S. Orr to the NRC Operations Center
  - b) NRC Letter Docket No. 99901227 dated August 12, 1992; L. J. Norrholm to R. S. Orr;  
Subject: Response to 10 CFR 21 Inquiry

Dear Sir or Madam:

In accordance with the reference correspondence and 10 CFR 21, Boeing is sending the NRC the attached error notice(s) received from our former software suppliers. Because of unknown current addresses, the following former customers were not notified:

Reactor Controls, Inc.

Echo Energy Consultants, Inc.

Nuclear Applications and Systems Analysis Company (Japan)

Nuclear Power Services

URS/John A. Blume & Associates

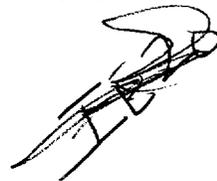
Error notices have been sent to our other former customers.

Very truly yours,



J. M. Keithley  
Nuclear Administrator  
G-1151 M/S 7F-06  
(206) 865-4438  
/de

Attachment(s): ANSYS Class3 Error Report 92-51, and QA Notice QA92-14. Also 4.4 and 4.4A Class3 Error Summaries by Report Number.



# ANSYS® CLASS3 ERROR REPORT

ERROR NO: 92-51

KEYWORDS: FLUID15 ELEM15 HEAT GENERATION LUMPED SPECIFIC HEAT

## DESCRIPTION OF ERROR:

FLUID15 (the 2D thermal-fluid element), with lumped specific heat matrix (KEYOPT(7)=1), does not heat up uniformly when the loading is through uniform heat generation if the element shape is not rectangular.

## FIRST INCORRECT VERSION(S):\*

Rev. 4.4

## CORRECTED IN:\*

Rev. 5.0A

## SUGGESTED USER ACTION FOR RUNNING ON UNCORRECTED VERSION:

Use KEYOPT(7)=0, or, for thermal analyses without coupling to fluid flow, use the thermal element PLANE55.

## COMMENTS:

In FLUID15, unlike in PLANE55, adjustment of the heat generation load vector in proportion to the diagonal elements of the lumped specific heat matrix is not carried out (see Section 6.2 of the 5.0 ANSYS User's Manual, Vol. IV - Theory).

FLUID15 was STIF15 prior to Rev. 5.0.

AUTHOR/CORRECTOR:

C. Rajakumar  
Charles Rajakumar

DATE:

December 30, 1992

REVIEWED BY QA:

Mark C. Imgrund  
Mark C. Imgrund

DATE:

December 30, 1992

APPROVAL:

John A. Swanson  
John A. Swanson

DATE:

December 30, 1992

If a product name is not included in the "first incorrect version", the full ANSYS program is implied. For products not listed, this error does not apply. Unless noted otherwise, this error report also applies to all revisions after the first incorrect one and prior to the corrected revision. All revisions after "corrected in" are corrected. Manual corrections are included in on-line documentation as appropriate. Please see the reverse side of this sheet for additional information on ANSYS revision identifiers.

FORM SASI-QA25  
DEC 19, 1988

# ANSYS QA NOTICE

NOTICE NO. QA92-14

SUBJECT:            *SOLID*            *SBCDEL*            *APSF*            *ACVSF*

## DESCRIPTION:

The behavior of solid model load deletion in the presence of other loads is not described adequately in the User's Manual. This notice clarifies a program behavior which may unintentionally delete loads.

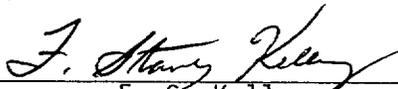
Element edge pressures (or convections) that are applied directly (P, PSF, EP, CV, CVSF, EC, etc.), or transferred from LPSF (or LCVSF) load on a line, will be deleted in addition to the face load (from APSF or ACVSF) by SBCDEL, APSF (or SBCDEL, ACVSF) under the following conditions:

1. An area pressure or convection exists on an area which contains a non-shell area element,
- and 2. an area pressure (APSF) or area convection (ACVSF) is deleted from the area.

SBCDEL, APSF (or CVSFS) has been replaced at Rev. 5.0 with the SFADELE command, which does not exhibit this behavior.

AFFECTED VERSIONS:        Rev. 4.3, 4.4, 4.4A

AUTHOR:

  
\_\_\_\_\_  
F. S. Kelley

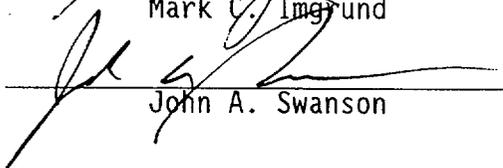
DATE: December 31, 1992

REVIEWED BY QA:

  
\_\_\_\_\_  
Mark C. Imgrund

DATE: December 31, 1992

APPROVAL:

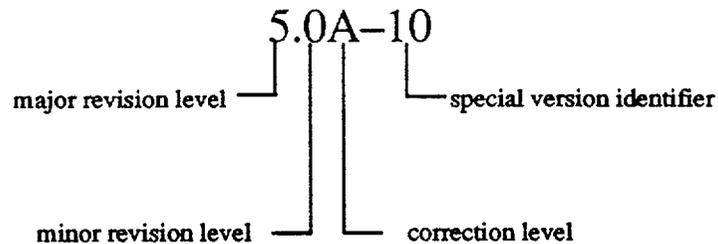
  
\_\_\_\_\_  
John A. Swanson

DATE: December 31, 1992

FORM SASI-QA3  
AUG 29, 1990

## ANSYS Revision Identifier Description

ANSYS revision identifiers consist of a major revision level, a minor revision level, a correction level, and occasionally a special version level. An example of how this is constructed is shown below:



Major revision level changes indicate that new features have been added to the program and that some level of program architecture change and/or file structure has occurred. Minor revision level changes also indicate that new features have been added to the program, but files are upwardly compatible. All known error fixes are included in both minor and major revisions. Changes to the correction level indicate that it is primarily an error correction release. Special version identifiers indicate that one or more additional minor changes have been made to the program, normally to circumvent an error. Special versions are not general releases to all ANSYS licensees, since they typically represent errors occurring only on one system, a subset of our customers who have specific graphics devices, etc.

The ANSYS revision identifier(s) shown under "corrected in" on the front side of this Class3 Error Report indicates the first possible revision that could contain the correction. A major program change needed to fix an error can dictate that the next minor or major revision will contain the fix rather than the next correction level. For example, when errors were being reported while Rev. 4.3A was the latest production version, most Class3 error reports indicated that 4.3B was the "corrected in" revision. Others requiring significant code restructuring were reported as fixed in 4.4. Rev. 4.3B was never released, but Rev. 4.4 contained all error corrections noted as fixed in 4.3B.

An identifier indicated under "corrected in" does not guarantee that a general release of that revision of ANSYS will occur. It does indicate that the correction is known and implemented in the coding that would be part of that general release.