October 31, 2001
G9701-SSG-037

DOCUMENT CONTROL DESK
UNITED STSTES NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

BOEING

Reference: a) Boeing Letter G-1151-RSO-92-365 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 notices received from our former software
suppliers. Because of unknown current addresses, the following former
customers were not notified:

Reactor Controls, Inc

Echo Energy Consultants

Nuclear Applications and Systems Analysis Company (Japan)

Nuclear Power Services

Error notices have been sent to our other former customers.

Very truly yours,

Mark S. Snyder
Nuclear Administrator
Mail Code 7A-43

Enclosures: GT STRUDL Program Report Forms 2001.6 through 2001.9

IE20

GTSTRUDL Program Report Form

SEVERITY LEVEL:

__X__ URGENT   Problem results in incorrect answers which may not be apparent or job
                 aborts and cannot be recovered within the session or job.

__ SERIOUS   Problem results in incorrect answers which are obvious or problem
                 prevents completion of a particular user's task.

__ MINOR   Problem can be worked around or problem poses high frustration factor.

__ INFORMATIVE   Documentation error, program usage tip, user inconveniences.
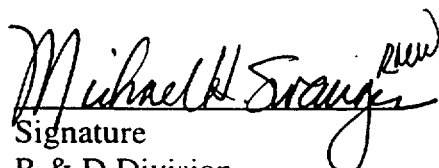

Date Problem Confirmed __April 4, 2001__

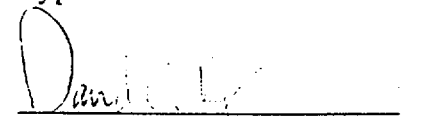Date Notification Sent ___4/6/01___

Computers __PC only__

Operating System __DOS, Windows NT, 95, 98, 2000, ME__

Version __96.01 and later__

Target Release for Correction __Version 26.0__

_____   __Sr. RE_____
Signature   Title
R & D Division

__Michael H. Swanger__   __4/3/01_____
Typed or Printed Name   Date of Signature

_____   _____
Signature   Title
Professional Services Division

_____   __4/5/01_____
Typed or Printed Name   Date of Signature

Rev. 2.0

GTSTRUDL Program Report Form
(Continued)

DESCRIPTION:

The RIGID BODY INCIDENCES command does not detect the specification of duplicate rigid body element identifiers. Any rigid body incidence entry, whose element identifier duplicates the identifier of any previously defined member, element, or rigid body, overwrites the incidences data for the previously defined member, element, or rigid body. No message indicating this situation is given. This problem was first detected when a list of rigid body incidences included element identifiers containing nine characters, such as the following:

```
TYPE RIGID SOLID
RIGID BODY INCIDENCES
        '12345678A' 1 2 3
        '12345678B' 2 3 4
        '12345678C' 3 4 5
```

Because element identifiers are restricted to eight characters, all of these rigid body element identifiers were truncated to the identical name '12345678', and only the incidence data for the last entry were stored.

The workaround is to specify unique, valid rigid body element identifiers in the RIGID BODY INCIDENCES command. A valid identifier has eight or fewer characters, or digits in the case of pure integer identifiers.

GTSTRUDL User Reference Manual Sections:

Rigid Bodies   Section 2.6.4.2, Volume 3, Rev. P, GTSTRUDL Reference Manual

GTSTRUDL Program Report Form

GPRF No.: 2001.07

DATE: 4/12/01

FROM: Computer-Aided Structural Engineering Center
          Georgia Institute of Technology
          Atlanta, Georgia 30332-0355

SEVERITY LEVEL:

X URGENT   Problem results in incorrect answers which may not be apparent or job
                    aborts and cannot be recovered within the session or job.

__ SERIOUS   Problem results in incorrect answers which are obvious or problem
                    prevents completion of a particular user's task.

__ MINOR   Problem can be worked around or problem poses high frustration factor.

__ INFORMATIVE   Documentation error, program usage tip, user inconveniences.

Date Problem Confirmed ___4/11/01___

Date Notification Sent ___4/12/01___

Computers _____All_____
Operating System ___All___

Versions ___All versions prior to and including Version 25___

Target Release for Correction ___Version 26___

___Kenneth Will___   ___Director ASD___
Signature   Title
R & D Division

Kenneth Will   ___4/12/01___
Typed or Printed Name   Date of Signature

___David C. Key___   ___Configuration Control Manager___
Signature   Title
Professional Services Division

___David C. Key___   ___4/12/01___
Typed or Printed Name   Date of Signature

Rev. 2.3

GTSTRUDL Program Report Form
(Continued)

DESCRIPTION:

If a loading contains JOINT TEMPERATUREs and that loading is later changed with the JOINT TEMPERATURES deleted, the joints which contained the deleted JOINT TEMPERATUREs will be incorrectly changed to planar element joints. Subsequent analyses may produce structural instabilities. This can be checked by the PRINT JOINT COORDINATE command and checking to see if the joints are listed as PLAN-EL (planar element).

Example:
LOADING 1
JOINT TEMPERATURES
1 TO 8 CHANGE 20.
JOINT LOADS
2 3 FORCE X 100
....
CHANGES
LOADING 1
DELETIONS
JOINT TEMPERATURE
1 TO 4
...
$
THE PRINT JOINT COORDINATE command will show that the joints have been changed to planar element (PLAN-EL)

Workaround:
Delete the loading and then redefine the loading with a new name.

Applicable Sections of the Documentation:
JOINT TEMPERATURE - SECTION 2.3.5.3 of Volume 3 of the GTSTRUDL Reference Manuals.
DETERMINE PLANAR JOINTS - SECTION 2.1.12.10 of Volume 1 of the GTSTRUDL Reference Manuals (describes PLAN-EL PLANAR joints).
PRINT JOINT COORDINATE - SECTION 2.1.14.2 of Volume 1 and Section 2.3.6 of Volume 3 of the GTSTRUDL Reference Manuals.

GTSTRUDL Program Report Form

GPRF No.: _2001.08_

DATE: _4/12/01_

FROM: Computer-Aided Structural Engineering Center
Georgia Institute of Technology
Atlanta, Georgia 30332-0355

SEVERITY LEVEL:

_X_ URGENT   Problem results in incorrect answers which may not be apparent or job aborts and cannot be recovered within the session or job.

_ SERIOUS   Problem results in incorrect answers which are obvious or problem prevents completion of a particular user's task.

_ MINOR   Problem can be worked around or problem poses high frustration factor.

_ INFORMATIVE Documentation error, program usage tip, user inconveniences.

Date Problem Confirmed ___4/11/01___

Date Notification Sent ___4/12/01___

Computers ___All___
Operating System ___All___

Versions ___All versions prior to and including Version 25___

Target Release for Correction ___Version 26___

Kenneth Will   _Director ASD_
Signature   Title
R & D Division

Kenneth Will   _4/12/01_
Typed or Printed Name   Date of Signature

David C. Key   _Configuration Control Manager_
Signature   Title
Professional Services Division

David C. Key   _4/12/01_
Typed or Printed Name   Date of Signature

Rev. 2.3

DESCRIPTION:

If a loading contains JOINT TEMPERATUREs and that loading is later deleted and a new loading is created with the same name, the JOINT TEMPERATUREs will still be present in the new loading.

Example:

LOADING 1
JOINT TEMPERATURES
1 TO 8 CHANGE 20.
....
DELETIONS
LOADING 1
ADDITIONS
...
LOADING 1
JOINT LOADS
2 3 FORCE X 10
$
A PRINT LOADING DATA will show that the JOINT TEMPERATURES from the original LOADING 1 still exist in the newly defined LOADING 1. Subsequent STIFFNESS or NONLINEAR ANALYSIS commands will consider JOINT TEMPERATUREs in LOADING 1.

Workaround:
Do not define a new loading with the same name as a deleted loading which contained JOINT TEMPERATURE specifications.
You can verify that this condition did not occur by issuing the PRINT LOADING DATA command and checking that incorrect JOINT TEMPERATUREs do not appear in the output.

Applicable Sections of the Documentation:
JOINT TEMPERATURE - SECTION 2.3.5.3 of Volume 3 of the GTSTRUDL Reference Manuals.
PRINT LOADING DATA - SECTION 2.1.14.2 of Volume 1 and Section 2.3.6 of Volume 3 of the GTSTRUDL Reference Manuals.

GTSTRUDL Program Report Form

GPRF No.: ___2001.09___

DATE: ___7/27/01___

FROM: Computer-Aided Structural Engineering Center
Georgia Institute of Technology
Atlanta, Georgia 30332-0355

SEVERITY LEVEL:

X URGENT   Problem results in incorrect answers which may not be apparent or job aborts and cannot be recovered within the session or job.

_ SERIOUS   Problem results in incorrect answers which are obvious or problem prevents completion of a particular user's task.

_ MINOR   Problem can be worked around or problem poses high frustration factor.

_ INFORMATIVE Documentation error, program usage tip, user inconveniences.
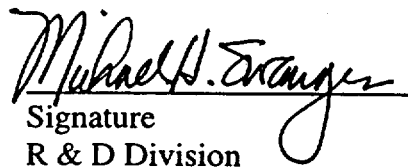
Date Problem Confirmed ___July 24, 2001___

Date Notification Sent ___7/27/01___

Computers _PC only_

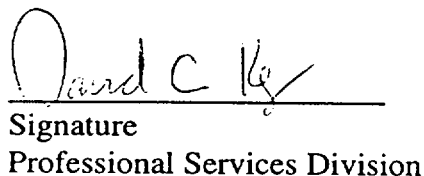Operating System _DOS, Windows NT, 95, 98, 2000, ME_

Version ___96.01 and later___

Target Release for Correction ___Version 26.0___

Signature
R & D Division

_Sr. RE_
Title

___Michael H. Swanger___
Typed or Printed Name

___7/27/01___
Date of Signature

Signature
Professional Services Division

Continuation Control Manager
Title

___David C. Key___
Typed or Printed Name

___7/27/01___
Date of Signature

Rev. 2.2

GTSTRUDL Program Report Form
(Continued)

GPRF No.: __2001.09__

DATE: _7/27/01_

DESCRIPTION:

The presence of joint constraints – joint ties and/or rigid bodies – forces the system mass matrix to be assembled using the consistent format, including the automatic computation of consistent member and element mass matrices from the self-weight density of the members and elements, regardless of whether or not the INERTIA OF JOINTS LUMPED/CONSISTENT command had been given.

As a work-around when using joint constraints and you do not wish the member and element self-weight consistent mass to be computed and assembled into the system mass matrix, then specify a 0.0 value for the DENSITY constant for the members and elements.

GTSTRUDL User Reference Manual Sections:

Joint Constraints

Section 2.6.4, Volume 3, Rev. Q, GTSTRUDL Reference Manual

Inertia Specification Command

Section 2.4.3.1, Volume 3, Rev. Q, GTSTRUDL Reference Manual

Rev. 2.2