

November 28, 2001  
G9701-SSG-038

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



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,

A handwritten signature in cursive script that reads "Mark S. Snyder".

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

Enclosures: GT STRUDL Program Report Forms 2001.10 through 2001.12

IE20

# GTSTRUDL Program Report Form

GPRF No.: 2001.10

DATE: 8/6/01

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

## SEVERITY LEVEL:

- ☒ **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 8/6/01

Date Notification Sent 8/6/01

Computers All

Operating System All

Versions All versions prior to and including Version 25

Target Release for Correction Version 26

Kenneth Will  
Signature  
R & D Division

Kenneth Will  
Typed or Printed Name

[Signature]  
Signature  
Professional Services Division

[Signature]  
Typed or Printed Name

Director ASD  
Title

8/6/01  
Date of Signature

[Signature]  
Title

8/6/01  
Date of Signature

# GTSTRUDL Program Report Form

(Continued)

GPRF No.: 2001.10

DATE: 8/6/01

## DESCRIPTION:

The CALCULATE RESULTANT command may abort or output incorrect names for joints and elements in error or warning messages:

1. If a joint is specified on the cut but doesn't exist or is not on the cut, the following warning message is output identifying an incorrect joint (node) name as not being on the cut:

WARNING\_stcres - NODE xxxxx DOES NOT BELONG TO ANY OF THE ELEMENTS SPECIFIED .....

where node xxxxx is not the correct name for the node which caused the warning message.

2. If an element is specified in the element list which does not contain a joint on the cut, the following warning message is output identifying an incorrect element name as not having any joints on the cut:

WARNING\_stcres - ELEMENT yyyyy HAS NO NODES ON THE CUT

where element yyyyy is not the correct name for the element which caused the warning message.

3. An abort will occur if an element which doesn't exist is specified as being on the cut.
4. An abort will occur if results do not exist for the first element specified on the cut.

### Workaround:

Check that results exist for all finite elements identified on cut. Verify that joints and elements identified on CALCULATE RESULTANT command are on cut.

### Applicable Sections of the Documentation:

CALCULATE RESULTANT command - Section 2.3.7.3 of Volume 3 of the GTSTRUDL Reference Manual.

# GTSTRUDL Program Report Form

GPRF No.: 2001.11

DATE: 8/21/01

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

## SEVERITY LEVEL:

- ☒ **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 8/21/01

Date Notification Sent 8/21/01

Computers All  
Operating System All

Versions All versions prior to and including Version 25

Target Release for Correction Version 26

Kenneth Will  
Signature  
R & D Division

Director ASD  
Title

Kenneth Will  
Typed or Printed Name

8/21/01  
Date of Signature

David E. Key  
Signature  
Professional Services Division

Commissioner Control Manager  
Title

David E. Key  
Typed or Printed Name

8/21/01  
Date of Signature

**GTSTRUDL Program Report Form**  
(Continued)

GPRF No.: 2001.11

DATE: 8/21/01

**DESCRIPTION:**

The Moving Load Generator will abort if the load path contains an incompatible list of members.

Example:

MOVING LOAD GENERATOR  
LOAD PATH 'A1' TO 'B3'

At this point, a STRUDL error will be output indicating the the boundary names in the sublist, A1 to A3, are incompatible (you can only increment the integer portion of the alphanumeric name) and then an abort will occur.

Applicable Sections of the Documentation:

MOVING LOAD GENERATOR - Section 2.1.11.3.5 of Volume 1 of the GTSTRUDL Reference Manuals.

List Concepts - Section 2.1.2.2 of Volume 1 of the GTSTRUDL Reference Manuals.

# GTSTRUDL Program Report Form

GPRF No.: 2001.12

DATE: 8/30/01

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

## SEVERITY LEVEL:

- ☒ **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 August 27, 2001

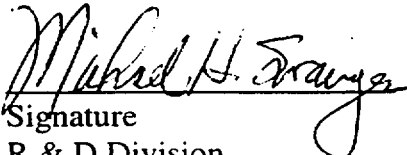
Date Notification Sent 8/30/01

Computers All

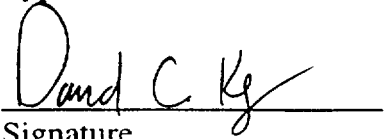
Operating System All

Version All

Target Release for Correction Version 26.0

  
Signature  
R & D Division

Michael H. Swanger  
Typed or Printed Name

  
Signature  
Professional Services Division

David C. Key  
Typed or Printed Name

Sr. RE  
Title

8/27/2001  
Date of Signature

Configuration Control Manager  
Title

8/30/01  
Date of Signature

# GTSTRUDL Program Report Form

(Continued)

GPRF No.: 2001.12

DATE: 8/30/01

## DESCRIPTION:

Interpolation of spectral accelerations , velocities, and displacements on a response spectrum curve produces the incorrect spectral result (spectral acceleration, velocity, displacement) if the the input frequency, which may correspond to a computed structural frequency from an eigenvalue analysis or the cutoff frequency specified in the FORM MISSING MASS LOAD command, exactly matches the frequency corresponding to the last point on the curve. In this case the incorrectly computed spectral result is the one corresponding to the next-to-last point on the curve. The likelihood of this occurrence seems very remote.

This error affects the results of response spectrum analysis from the PERFORM RESPONSE SPECTRUM ANALYSIS, PERFORM MODE SUPERPOSITION ANALYSIS, and DYNAMIC ANALYSIS MODAL commands and the missing mass load computation from the FORM MISSING MASS LOAD command.

The work-around is to define response spectrum curves (STORE RESPONSE SPECTRUM command) with a flat zero-period spectral response portion for frequencies  $\geq$  the cutoff frequency.

## GTSTRUDL User Reference Manual Sections:

Dynamic Analysis Command	Section 2.4.5.4, Volume 3, Rev. J, GTSTRUDL Reference Manual
Mode Superposition Analysis	Section 2.4.5.5.6, Volume 3, Rev. J, GTSTRUDL Reference Manual
Response Spectra Analysis	Section 2.4.5.5.10, Volume 3, Rev. J, GTSTRUDL Reference Manual
Computation of Response Spectrum Missing Mass Loads	Section 2.4.9, Volume 3, Rev. Q, GTSTRUDL Reference Manual