The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

September, 2004
9704-PFS-037

DOCUMENT CONTROL DESK
UNITED STATES 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
GPU Nuclear Corporation
Tenera, Inc.
Stone & Webster Engineering
Raytheor Engineers & Constructors

Error notices have been sent to our other former customers.

Please note that Mark Snyder has taken another position and the undersigned has assumed the role of Nuclear Administrator for Boeing.

Very truly yours,

Pat Soroe

Pat Soroe
Nuclear Administrator
Mail Code 7A-XT

Enclosures: GT STRUDL Program Report Forms 2004.10 through 2004.11

IE09

GTSTRUDL Program Report Form

GPRF No.: 2004.10

DATE: 7/1/04

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 7/1/04

Date Notification Sent 7/1/04

Computers All

Operating System All

Version All versions prior to Version 28.0 (versions released prior to 2004)

Kenneth Will
Signature
R & D Division

Director, R&D
Title

Kenneth M. Will
Typed or Printed Name

7/1/04
Date of Signature

David C K
Signature
Professional Services Division

Configuration Control Manager
Title

David C. Key
Typed or Printed Name

7/1/04
Date of Signature

Rev 2.5

GTSTRUDL Program Report Form
(Continued)

GPRF No.: 2004.10

DATE: 7/1/04

DESCRIPTION:

LOCAL surface forces applied to 3D solid finite elements (TYPE TRIDIMENSIONAL - IPLS, IPQS, IPSL, IPQS, TRANS3D, TRIP, WEDGE15) will be created incorrectly if the nodes for the elements are not created as stated in Section 2.3.5.1.2 of Volume 3 of the GTSTRUDL Reference Manual which states:

"the nodes are listed starting with an arbitrary corner node on an arbitrary face and proceeding in a counterclockwise manner about that face as one looks at the face from the outside of the element."

This error applies to LOCAL surface forces only. GLOBAL surface forces are correctly generated. A LOCAL PZ surface force is assumed to be positive pointing out from the face. If this error occurs, the surface force will be created with positive pointing into the element and the LOCAL surfaces forces will be created in a direction opposite to what is expected.

Examples:

```
LOAD 1
ELEMENT LOAD
1 TO 10 SURFACE FORCE FACE 1 LOCAL PZ -10
```

OR

```
LOAD 1
ELEMENT LOAD
1 TO 10 SURFACE FORCE FACE 1 PZ -10    $ LOCAL is the default
```

where elements 1 to 10 do not have their ELEMENT INCIDENCES listed as described above. In the above two examples, the surface force should be into the elements. Since the ELEMENT INCIDENCES are not created as described above, the surface force will be out of the elements.

To determine if this error has occurred, users should check the summation of reactions (LIST SUM REACTIONS) and verify that the reaction summation is in the correct direction.

Applicable Section of the Documentation:

Element Incidences Order for TRIDIMENSIONAL elements - Section 2.3.5.1.2 of Volume 3 of the GTSTRUDL Reference Manual
Surface Forces on TRIDIMENSIONAL elements - Section 2.3.5.4.2.2 of Volume 3 of the GTSTRUDL Reference Manual

LIST SUM REACTIONS - Section 2.1.14.4 of Volume 1 of the GTSTRUDL Reference Manual

GTSTRUDL Program Report Form

GPRF No.: 2004.11

DATE: 8/6/04

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.
X 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 8/6/04

Date Notification Sent 8/6/04

Computers All

Operating System All

Version All versions prior to Version 28.0 (versions released prior to 2004)

Signature
R & D Division

Director, ASD
Title

Kenneth M. Will
Typed or Printed Name

8/6/04
Date of Signature

Signature
Professional Services Division

Configuration Control Manager
Title

David C. Key
Typed or Printed Name

8/6/04
Date of Signature

Rev 2.5

GTSTRUDL Program Report Form
(Continued)

GPRF No.: 2004.11

DATE: 8/6/04

DESCRIPTION:

The SELF WEIGHT command will not be recognized if it immediately follows variable member properties where the word SEGMENT is specified just prior to the SELF WEIGHT command. The user will be informed of this by the following error messages:

CI-w-reqdmis, ERROR: Required integer data missing.
CI-w-errncmd, ERROR: The previous command completed with one or more errors.
CI-w-cmdnpro, ERROR: The following symbols were not processed

Example illustrating the problem:

```
MEMBER PROPERTIES VARIABLE
100
SEG 1 AX 10 IX 1 IY 1 IZ 2 L 2.5
SEG 2 AX 20 IX 1 IY 1 IZ 3 L 2.5
SEG 3 AX 30 IX 1 IY 1 IZ 4 L 2.5
SEG 4 AX 40 IX 1 IY 1 IZ 5 L 2.5

SELF WEIGHT LOADING 1 'Selfweight Structure' DIR -Y ALL MEM
```

Workaround:

Insert any command other than the variable property command with the word SEGMENT immediately preceding the SELF WEIGHT command.

Applicable Sections of the Documentation:

Member Properties command with variable specs : Section 2.1.9.2.3 of Volume 1 of the GTSTRUDL Reference Manual

Self Weight command: Section 2.1.11.3.1.1 of Volume 1 of the GTSTRUDL Reference Manual