

82-730-000

Owen
Ente. + P. 21 sept

UCC
UNIVERSITY COMPUTING COMPANY
A Wyly Company

1930 Hi Line Drive
Dallas, Texas 75207

November 5, 1982

Mr. J. T. Collins, Regional Administrator
NUCLEAR REGULATORY COMMISSION - Region IV
Office of Inspection & Enforcement
611 Ryan Plaza Drive - Suite 1000
Arlington, TX 76011

Gentlemen:

We are in receipt of the attached letter from DIS/ADLPIPE, Inc.,
advising us of changes which were incorporated in the computer
program known as ADLPIPE.

As a provider of computing services, University Computing
Company is not in a position to ascertain the purpose for
which a particular computer program was used nor is
University Computing Company able to ascertain, based upon
its records of computer utilization, as to whether a
"substantial safety hazard" exists in a licensed facility
or component as covered under 10CFR21.

Based upon our records of computer utilization we have
advised those clients of ours who have used this particular
program. A sample copy of the letter sent to our clients is
also attached for your reference.

Sincerely,

UNIVERSITY COMPUTING COMPANY

Eric Hochfelder

Eric Hochfelder
Vice President
Client Services

EH:dm
Attachments
cc: NRC-Bethesda, MD ✓

*Justine
Assign to RIV
Owen 11/28/82
Give Info Copy to Alley*

DIS|ADLPIPE, Inc.

55 WHEELER STREET, CAMBRIDGE, MA 02138 USA
TEL: 617-492-1991
TWX 7103201382

RECEIVED
NOV - 4 1982
ERIC HOCHFELDER

October 26, 1982

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY
1930 Hi Line Drive
Dallas, TX 75207

Dear Mr. Bridges:

The purpose of this letter is to provide you with information concerning several changes in ADLPIPE, and to advise you that if previous revisions of ADLPIPE were used in the design of a nuclear reactor under specific circumstances, an evaluation under 10 CFR Part 21 may be required.

Version C Release 0 of ADLPIPE was released in December 1981; and Version D, Release 1 was released in May 1982. All of the changes to Version C which resulted in Version D, Release 0 and all of the changes which resulted in Version D, Release 1, are described in ADLPIPE Reference 38. This document is available to you upon request.

The changes consist of repairs of errors, new features and improvements in program efficiency. Changes are classified into three categories. Category I includes changes to repair errors which would be undetected during solution and which we believe to be potentially significant (10 percent or greater). Changes in Category II or Category III repair errors which would be detected by the program or operating system or which do not affect the solution of a problem or which we believe would not be potentially significant.

Version D, Release 0 contained one change which corrected a Category I error. Version D, Release 1 contained five changes which corrected such errors. These six changes are discussed below.

We would like to point out that extensive efforts are taken to avoid errors in ADLPIPE. Every change made in ADLPIPE is verified by a specially designed test problem. However, due to the versatility of ADLPIPE input, the test problems cannot check every possible combination. Therefore we request that users report any suspected error to DAI; each reported error is logged and investigated; and if an error is confirmed, an appropriate change is made and verified with a test problem. The changes and verification test reports are available to you for audit.

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY

-2-

October 26, 1982

In addition, the ADLPIPE Verification Manual is available to you for inspection. In this verification process, 84 problems have been verified by hand or computer calculation.

The six changes contained in Version D, which corrected Category I errors are as follows:

Change 172 was a change to the transient thermal analysis. This program calculates $\Delta T1$, and $\Delta T2$, parameters required by ASME Section III, class I pipe stress analysis. When an insulation card was omitted, the outside temperature of the pipe was assumed to be fixed (i.e. a perfect heat sink), and the resulting calculated $\Delta T1$, could, in some cases be devalued by more than 10 percent. Users should inspect all Transient Thermal Analyses, dated 1976 or later, to determine if the INSULATION card was omitted. The correct solution was introduced into Version D, Release 0 of ADLPIPE.

Change No. 361 was a change to the Spring Hanger Report. Previously, in earlier versions of ADLPIPE, a net discontinuity force was printed out where the discontinuity force at any location was the algebraic sum of the force/moment on the pipe, any weight added at the location, and the spring constant times the deflection. Until Version C of ADLPIPE, this report was the "Discontinuity (DIS)" report. Version C and Version D, Release 0 printed out the same Discontinuity forces but titled those forces, "Spring Hanger Report." This has been changed in Version D, Release 1 so that the Spring Hanger Report gives the total force or moment acting in the spring (spring constant times the deflection). Users who have any questions about the mechanical design of a spring hanger based upon an earlier run of ADLPIPE should inspect their input deck to see if a FORCE, MOMENT, or WEIGHT card, or a VALVE card with a specified weight, was used at the same point as a SPRING or the set of SIX STIFFNESS cards. In that specific case, the force or moment in the Spring Hanger Report will be the discontinuity force. The actual force in the hanger for a static analysis may be different. That hanger force may be calculated by subtracting any weight or FORCE/MOMENT which is applied to the same point and acts in the same global axis as the spring. The analysis need not be rerun since the values of pipe stress are correct. It should be noted that only the static analysis is affected. Seismic and force time history analyses would be unaffected.

DIS|ADLPIPE, Inc.

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY

-3-

October 26, 1982

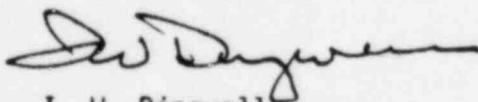
Change No. 402 concerns new 4E and 6E elbow elements. These elements are described in the Addendum to the ADLPIPE Input Preparation Manual dated September, 1981. These elements were treated as straight members (runs) when they were the first member in a section. Change No. 427 concerns FV, XV, TV, or RV elements, and are also described in the September, 1981 Addendum. Where a FV, XV, TV, or RV was adjacent to and following an elbow, it caused the preceding elbow to act as a run. These errors have been corrected in ADLPIPE Version D, Release 1. Any ADLPIPE user who used these new elements in Version D, Release 0 should rerun the decks in which they were used.

Change No. 429 was added to ADLPIPE Version D, Release 1 because a completely filled-in member modifier card is, and always has been, required when changing class in Section III. If material member modifier is incomplete, an error message is generated in Version D Release 1. ADLPIPE users should review ASME Section III mixed class runs for ADLPIPE versions dated 1975 or later to make sure that material member modifier cards were used when changing Class, and that the required fields are filled out. If the material member modifier card was not properly filled out, the previous material card properties were used and if this material card was for a different ASME Section III class, an error could result.

Change No. 437 was added to ADLPIPE Version D, Release 1 because the value of DELTA/T could be set to zero if a following OFFSET card had a blank value for DELTA/T. When the value of DELTA/T is entered on an OFFSET card for Version D, Release 1, this value of offset is continued until a positive value is entered in the Z(1) field on an OFFSET card. For Version D, Release 0, an OFFSET card with the Z(1) field blank would set the DELTA/T to zero. Users of ADLPIPE Version D, Release 0 should check the member material property data sheet for any runs to insure that DELTA/T value is correct.

If the ADLPIPE code was used in the design of a facility licensed by the United States Nuclear Regulatory Commission (NRC) under circumstances where any of the foregoing changes are pertinent, we request that the user perform an evaluation to ascertain whether such use could create a "substantial safety hazard," as defined in 10 CFR Part 21. If a substantial safety hazard could be created, we further request that the NRC be notified in accordance with the requirements of Part 21 and that we be advised of such notification.

Very truly yours,



I. W. Dingwell
President

/bd

UCC

UNIVERSITY COMPUTING COMPANY

A Wyly Company

1930 Hi Line Drive
Dallas, Texas 75207

Dear Customer:

University Computing Company is in receipt of the attached letter from DIS/ADLPIPE, Inc. This letter notes certain changes and errors that were detected in a computer code known as ADLPIPE. Our records of computer utilization indicate that your company has used this application code. A summary of your utilization of ADLPIPE is attached for your reference.

As required by federal regulations, we have forwarded a copy of the letter from DIS/ADLPIPE, Inc., to the Nuclear Regulatory Commission. A copy of our letter to the NRC is also attached for your reference.

We are forwarding this information to you so that you may take any necessary action that may be applicable in your particular situation. Please advise us if we may be of any further assistance to you or your company in regards to this matter.

Sincerely,

Eric Hochfelder
Vice President
Client Services

EH:sh
Attachments

UCC

UNIVERSITY COMPUTING COMPANY

A Wyly Company

1930 Hi Line Drive
Dallas, Texas 75207

November 5, 1982

Mr. J. T. Collins, Regional Administrator
NUCLEAR REGULATORY COMMISSION - Region IV
Office of Inspection & Enforcement
611 Ryan Plaza Drive - Suite 1000
Arlington, TX 76011

Gentlemen:

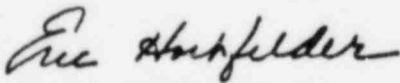
We are in receipt of the attached letter from DIS/ADLPIPE, Inc., advising us of changes which were incorporated in the computer program known as ADLPIPE.

As a provider of computing services, University Computing Company is not in a position to ascertain the purpose for which a particular computer program was used nor is University Computing Company able to ascertain, based upon its records of computer utilization, as to whether a "substantial safety hazard" exists in a licensed facility or component as covered under 10CFR21.

Based upon our records of computer utilization we have advised those clients of ours who have used this particular program. A sample copy of the letter sent to our clients is also attached for your reference.

Sincerely,

UNIVERSITY COMPUTING COMPANY



Eric Hochfelder
Vice President
Client Services

EH:dm
Attachments
cc: NRC-Bethesda, MD

DIS|ADLPIPE, Inc.

55 WHEELER STREET, CAMBRIDGE, MA 02138 USA
TEL: 617-492-1991
TWX 7103201382

RECEIVED

NOV - 4 1982

ERIC HOCHREIDER

October 26, 1982

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY
1930 Hi Line Drive
Dallas, TX 75207

Dear Mr. Bridges:

The purpose of this letter is to provide you with information concerning several changes in ADLPIPE, and to advise you that if previous revisions of ADLPIPE were used in the design of a nuclear reactor under specific circumstances, an evaluation under 10 CFR Part 21 may be required.

Version D, Release 0 of ADLPIPE was released in December 1981; and Version D, Release 1 was released in May 1982. All of the changes to Version C which resulted in Version D, Release 0 and all of the changes which resulted in Version D, Release 1, are described in ADLPIPE Reference 38. This document is available to you upon request.

The changes consist of repairs of errors, new features and improvements in program efficiency. Changes are classified into three categories. Category I includes changes to repair errors which would be undetected during solution and which we believe to be potentially significant (10 percent or greater). Changes in Category II or Category III repair errors which would be detected by the program or operating system or which do not affect the solution of a problem or which we believe would not be potentially significant.

Version D, Release 0 contained one change which corrected a Category I error. Version D, Release 1 contained five changes which corrected such errors. These six changes are discussed below.

We would like to point out that extensive efforts are taken to avoid errors in ADLPIPE. Every change made in ADLPIPE is verified by a specially designed test problem. However, due to the versatility of ADLPIPE input, the test problems cannot check every possible combination. Therefore we request that users report any suspected error to DAI; each reported error is logged and investigated; and if an error is confirmed, an appropriate change is made and verified with a test problem. The changes and verification test reports are available to you for audit.

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY

-2-

October 26, 1982

In addition, the ADLPIPE Verification Manual is available to you for inspection. In this verification process, 84 problems have been verified by hand or computer calculation.

The six changes contained in Version D, which corrected Category I errors are as follows:

Change 172 was a change to the transient thermal analysis. This program calculates ΔT_1 , and ΔT_2 , parameters required by ASME Section III, class 1 pipe stress analysis. When an insulation card was omitted, the outside temperature of the pipe was assumed to be fixed (i.e. a perfect heat sink), and the resulting calculated ΔT_1 , could, in some cases be devalued by more than 10 percent. Users should inspect all Transient Thermal Analyses, dated 1976 or later, to determine if the INSULATION card was omitted. The correct solution was introduced into Version D, Release 0 of ADLPIPE.

Change No. 361 was a change to the Spring Hanger Report. Previously, in earlier versions of ADLPIPE, a net discontinuity force was printed out where the discontinuity force at any location was the algebraic sum of the force/moment on the pipe, any weight added at the location, and the spring constant times the deflection. Until Version C of ADLPIPE, this report was the "Discontinuity (DIS)" report. Version C and Version D, Release 0 printed out the same Discontinuity forces but titled those forces, "Spring Hanger Report." This has been changed in Version D, Release 1 so that the Spring Hanger Report gives the total force or moment acting in the spring (spring constant times the deflection). Users who have any questions about the mechanical design of a spring hanger based upon an earlier run of ADLPIPE should inspect their input deck to see if a FORCE, MOMENT, or WEIGHT card, or a VALVE card with a specified weight, was used at the same point as a SPRING or the set of SIX STIFFNESS cards. In that specific case, the force or moment in the Spring Hanger Report will be the discontinuity force. The actual force in the hanger for a static analysis may be different. That hanger force may be calculated by subtracting any weight or FORCE/MOMENT which is applied to the same point and acts in the same global axis as the spring. The analysis need not be rerun since the values of pipe stress are correct. It should be noted that only the static analysis is affected. Seismic and force time history analyses would be unaffected.

DIS|ADLPIPE, Inc.

Mr. John Bridges
UNIVERSITY COMPUTING COMPANY

-3-

October 26, 1982

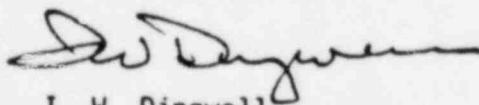
Change No. 402 concerns new 4E and 6E elbow elements. These elements are described in the Addendum to the ADLPIPE Input Preparation Manual dated September, 1981. These elements were treated as straight members (runs) when they were the first member in a section. Change No. 427 concerns FV, XV, TV, or RV elements, and are also described in the September, 1981 Addendum. Where a FV, XV, TV, or RV was adjacent to and following an elbow, it caused the preceding elbow to act as a run. These errors have been corrected in ADLPIPE Version D, Release 1. Any ADLPIPE user who used these new elements in Version D, Release 0 should rerun the decks in which they were used.

Change No. 429 was added to ADLPIPE Version D, Release 1 because a completely filled-in member modifier card is, and always has been, required when changing class in Section III. If material member modifier is incomplete, an error message is generated in Version D Release 1. ADLPIPE users should review ASME Section III mixed class runs for ADLPIPE versions dated 1975 or later to make sure that material member modifier cards were used when changing Class, and that the required fields are filled out. If the material member modifier card was not properly filled out, the previous material card properties were used and if this material card was for a different ASME Section III class, an error could result.

Change No. 437 was added to ADLPIPE Version D, Release 1 because the value of DELTA/T could be set to zero if a following OFFSET card had a blank value for DELTA/T. When the value of DELTA/T is entered on an OFFSET card for Version D, Release 1, this value of offset is continued until a positive value is entered in the Z(1) field on an OFFSET card. For Version D, Release 0, an OFFSET card with the Z(1) field blank would set the DELTA/T to zero. Users of ADLPIPE Version D, Release 0 should check the member material property data sheet for any runs to insure that DELTA/T value is correct.

If the ADLPIPE code was used in the design of a facility licensed by the United States Nuclear Regulatory Commission (NRC) under circumstances where any of the foregoing changes are pertinent, we request that the user perform an evaluation to ascertain whether such use could create a "substantial safety hazard," as defined in 10 CFR Part 21. If a substantial safety hazard could be created, we further request that the NRC be notified in accordance with the requirements of Part 21 and that we be advised of such notification.

Very truly yours,



I. W. Dingwell
President

/bd

UCC

UNIVERSITY COMPUTING COMPANY

A Wyly Company

1930 Hi Line Drive
Dallas, Texas 75207

Dear Customer:

University Computing Company is in receipt of the attached letter from DIS/ADLPIPE, Inc. This letter notes certain changes and errors that were detected in a computer code known as ADLPIPE. Our records of computer utilization indicate that your company has used this application code. A summary of your utilization of ADLPIPE is attached for your reference.

As required by federal regulations, we have forwarded a copy of the letter from DIS/ADLPIPE, Inc., to the Nuclear Regulatory Commission. A copy of our letter to the NRC is also attached for your reference.

We are forwarding this information to you so that you may take any necessary action that may be applicable in your particular situation. Please advise us if we may be of any further assistance to you or your company in regards to this matter.

Sincerely,

Eric Hochfelder
Vice President
Client Services

EH:sh
Attachments