

Total
Hose
Technology



titeflex[®]
TITEFLEX CORPORATION
A BUNDY COMPANY

84-141-000
December 16, 1983

Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Non-Conformance of Metal Hose Assemblies for ASME,
Sec. III, Class 2 and 3 Service

Gentlemen:

On January 11, 1982, after due process, The Titeflex Corporation received Certificate of Authorization No. N-2572 which authorized us to use the NPT stamp for Class 2 and 3 piping subassemblies in accord with the provisions of the Boiler and Pressure Vessel Code of ASME. Since receiving this stamp, Titeflex has fabricated, stamped and delivered flexible metal hose assemblies per ASME Sec. III and related Code Case N-192 to Stone & Webster at Millstone 3, United Engineers at Seabrook Unit 1 and Toledo Edison at Davis-Besse Station.

During the presentation of one lot of Class 3 Code hardware for United Engineers, Seabrook Unit 1, the U.E. source inspector raised several questions, including our conformance to the Code in the following areas: 1) There was excess weld reinforcement at the elbow welds for the metal hose assemblies, and 2) X-rays did not show location markers as required by Code.

Titeflex immediately initiated proper action for the removal of the excess reinforcement and made a general review of all films related to the U.E. hardware, including hardware previously shipped to Seabrook Unit 1.

After review of the films, Titeflex Level 3 x-ray technician was able to demonstrate that other physical characteristics of the assembly were visible on the x-rays and could be used as markers for the x-ray film. Both U.E. and their customer and our ANI were apprised of the situation, and there was agreement that alternate marking techniques could be used. All material previously shipped to Seabrook was returned to Titeflex to verify that alternate markers for weld identification did, in fact, provide the assurance required by the Code.

During this investigation, it was established that x-ray for these weld joints was not a requirement because all assemblies involved were Class 3. "LP" examination was all that was needed. Further review of the inspection requirements for the flexible hose innercore attachment weld raised a question concerning the acceptability of x-ray in lieu of LP examination. This was of major concern because the innercore attachment weld was buried in the assembly and not accessible for LP examination.

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On this issue, the ANI ruled that the latest issue of the related Code Case N-192-2 does allow x-ray; but the customer (U.E.) was not sure, and Titeflex was forced to begin consideration for a request for Code interpretation. As a result of these discussions and considerations, the innercore attachment weld design was scrutinized very closely and out of that review an additional question was raised, "Does the weld joint design conform to the requirements of the Code?"

After this latter question was raised, Titeflex made a full review of the performance of the joint design. Based on its having met or exceeded all specification requirements by actual test, Titeflex stated that safety was not an issue, and we notified our customers that all items previously shipped were now involved in a question of interpretation for the innercore weld joint design and the related NDE testing.

Titeflex made a request of ASME for interpretation through our consultants, Teledyne Engineering Services of Waltham, Ma. Our consultants have now advised us that initial response to the request indicates that a code modification will be required. In light of the time delay to execute such a change and that the code modification implies that present hardware is not in conformance, we have instituted a program to bring all designs into conformance with the Code and to properly rework or replace all items shipped or in process.

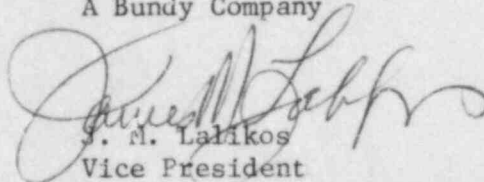
All customers were notified accordingly, and we are taking this opportunity to apprise you of the situation. We are attaching for your information a full list of particulars concerning all of the hardware that was shipped.

On November 15, Mr. Delmer Norman of NRC, Region IV, made a call and performed an audit at Titeflex. At that time, Mr. Norman was apprised of all particulars given above except for the results for request of Code interpretation which occurred since his visit.

The above summary is to the best of my knowledge a true picture of the activities related to this subject. Please call me if you have any questions.

Yours truly,

TITEFLEX CORPORATION
A Bundy Company



J. M. Lalikos
Vice President

Engineering & Quality Control

att.

cc: Messrs. F. Dibble, Jr. (Bulkley, Richardson & Gelinas)
D. Meador, Titeflex
J. Staggers, Titeflex
K. Hoben, Titeflex
T. Haight, Titeflex

STATUS OF NON-CONFORMING ITEMS SHIPPED

A. Stone & Webster Engineering Corp., P.O. No. 2472.800-653 for Millstone Nuclear Station,
Unit No. 3 -

<u>Part Number Shipped</u>	<u>Quantity*</u>	<u>Status</u>
TF P/N 109042-1 Mark #3HFM300-S22-9	235	231 in Stores 14 pieces installed**
TF P/N 109042-3 Mark #3HFM150-S22-9	198	185 in Stores 13 pcs. installed **
TF P/N 109042-4 Mark #3HFM150-S52-9	8	All in Stores
TF P/N 109042-5 Mark #3HFM150-M22-10	17	Returned to Titeflex

*All items to be used in Code areas will be returned and brought into conformance.

**These may or may not be in Code areas.

B. United Engineers & Constructors, Seabrook Unit 1- P.O. No. 9763.006-248

109024-1 1-DG-EP-22B	1	All
109024-2 1-DG-EP-23B	1	parts
109024-7 1-DG-EP-22A	1	returned
109024-8 1-DG-EP-23A	1	to
109024-1S All above	1	Titeflex
109024-5 1-DG-EP-26B	1	
109024-11 1-DG-EP-26A	1	
109024-5S All Above	1	
109024-6 1-DG-EP-27B	1	
109024-12 1-DG-EP-27A	1	
109024-6S All Above	1	
109024-3 1-DG-EP-24B	1	

STATUS OF NON-CONFORMING ITEMS SHIPPED (cont'd.)

B. United Engineers & Constructors, Seabrook Unit 1 (cont'd.)

<u>Part Number Shipped</u>	<u>Quantity</u> *	<u>Status</u>
109024-4	1	All
1-DG-EP-25B		parts
109024-9	1	returned
1-DP-EP-24A		to
109024-10	1	Titeflex
1-DG-EP-25A		
109024-3S	1	
All Above		
109023-23	1	
CC-MM-243		
109023-33	1	
CC-MM-244		
109023-34	1	
CC-MM-254		
109023-51	1	
CC-MM-273		
109023-52	1	
CC-MM-274		
109023-63	1	
CC-MM-263		
109023-64	1	
CC-MM-264		
109023-23S	1	
All above		

*All items were returned to Titeflex and are being brought into conformance with the Code.

C. Toledo Edison Co., P.O. No. 102-A-72696A-G1, Davis-Besse Station.

109363-1	1	In Stores
109363-2	1	In Stores

*Customer advises these were not installed. Customer has been advised we will send replacements.