

Photo .18: Brass/Aluminum Double-Jacketed Connector
Specimen [REDACTED]

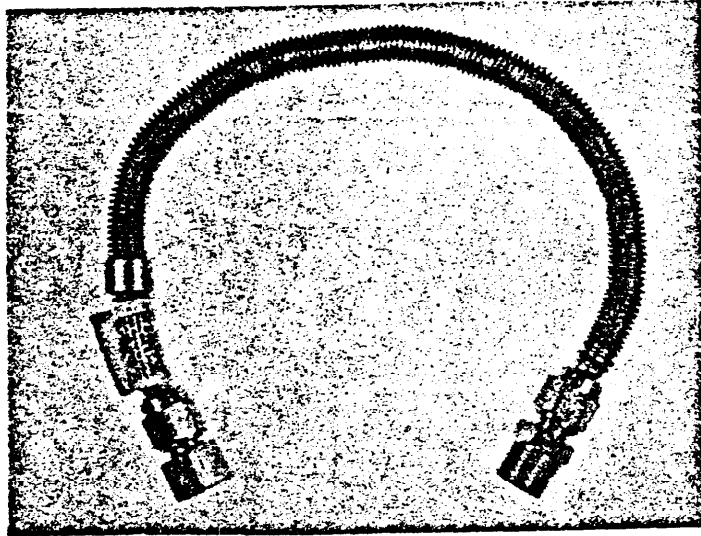


Photo 19: Stainless Steel Connector
Specimen [REDACTED]

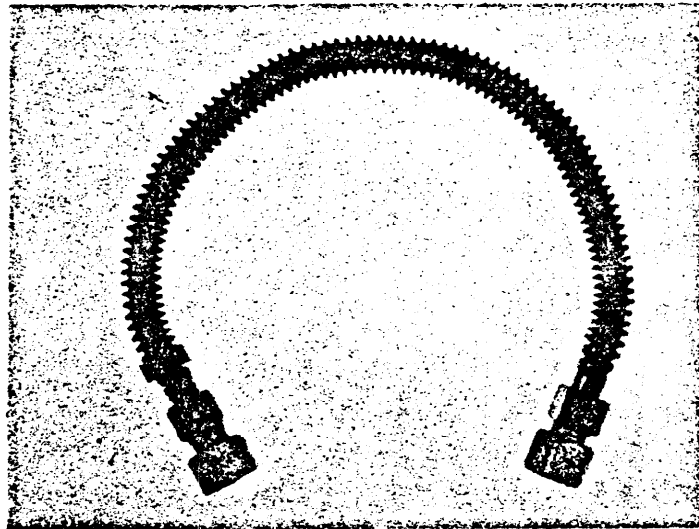


Photo 20: Polymer Coated Connector
Specimen [REDACTED]

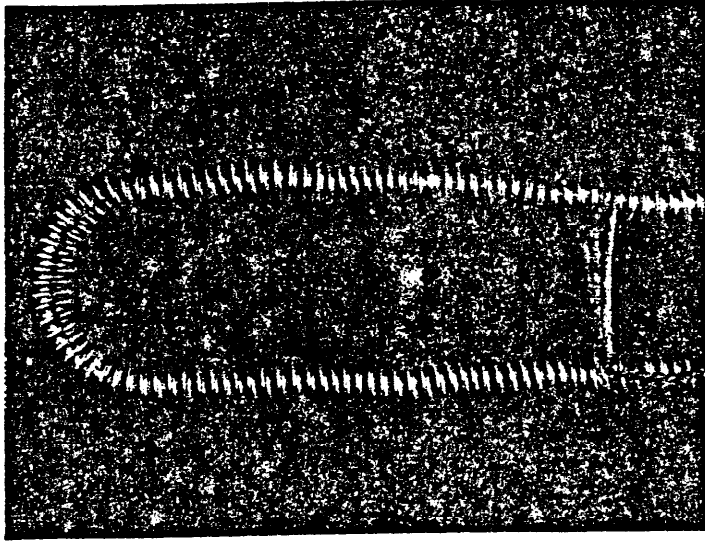


Photo 22: Brass Connector
Specimen [REDACTED]

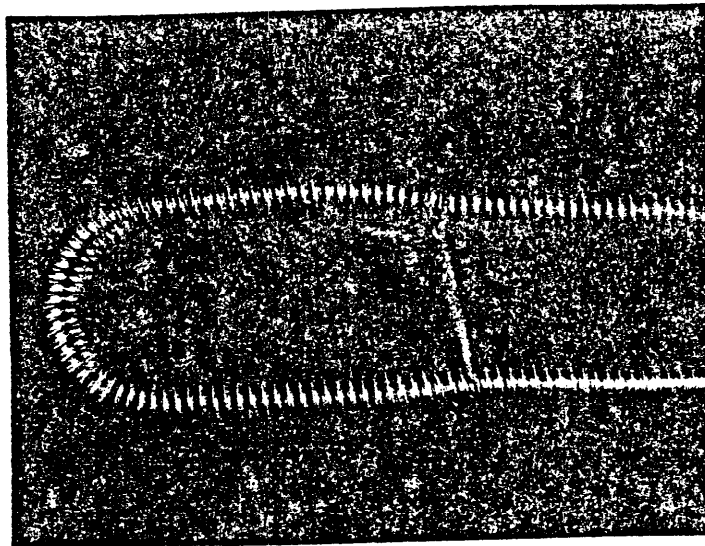


Photo 21: Brass Connector
Specimen [REDACTED]

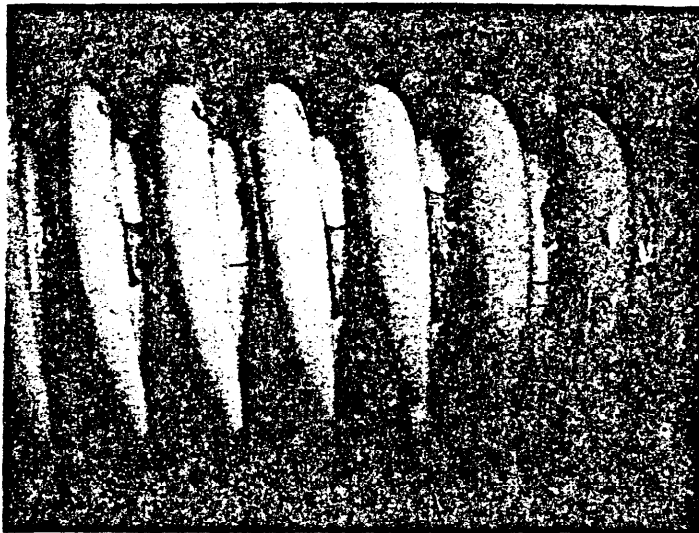


Photo 23: Damaged Epoxy Polymer Coating
As Received by BESL
Specimen [REDACTED]

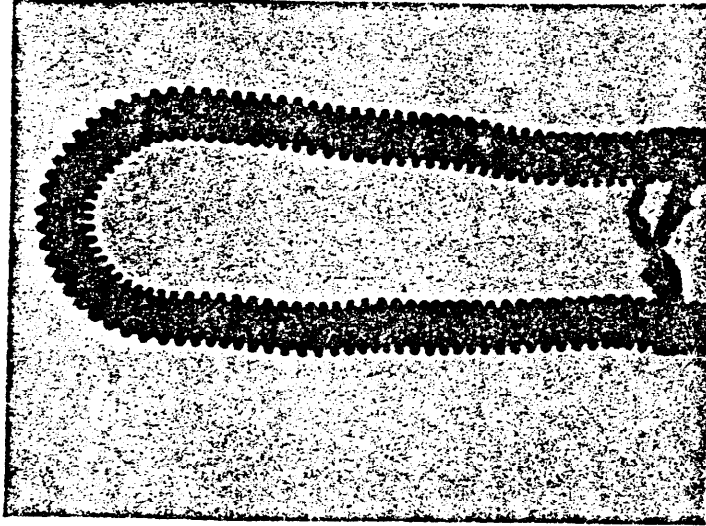


Photo 25: Brass Connector After
Ammonia Vapor Exposure
Specimen [REDACTED]

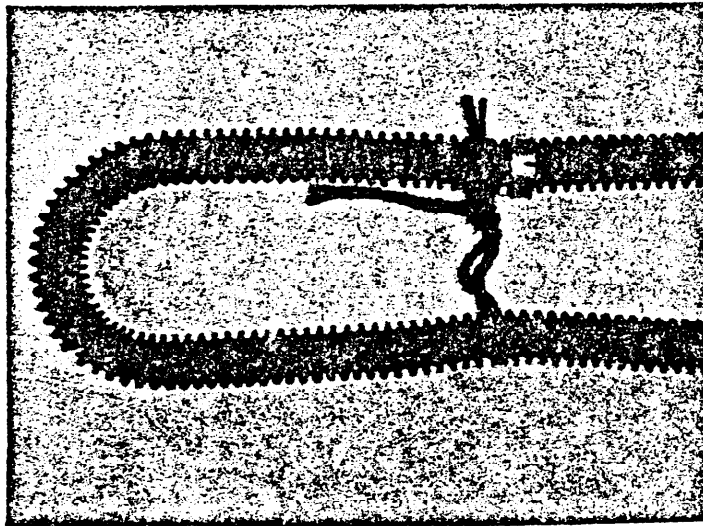


Photo 24: Brass Connector After
Ammonia Vapor Exposure
Specimen [REDACTED]

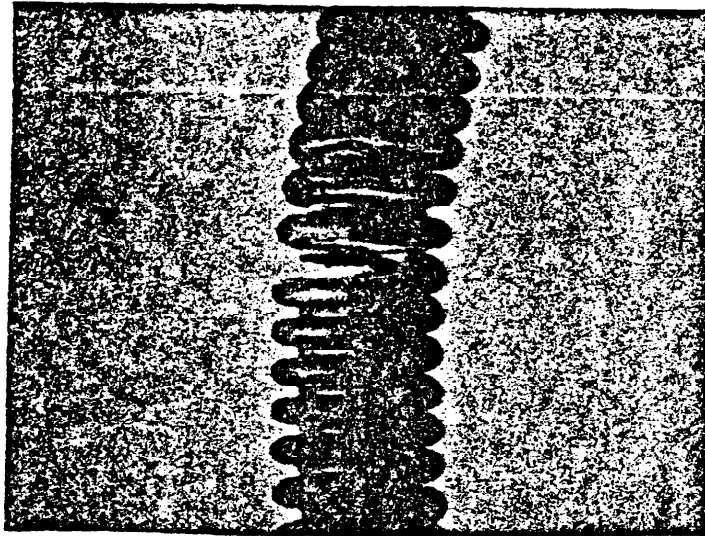


Photo 26: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

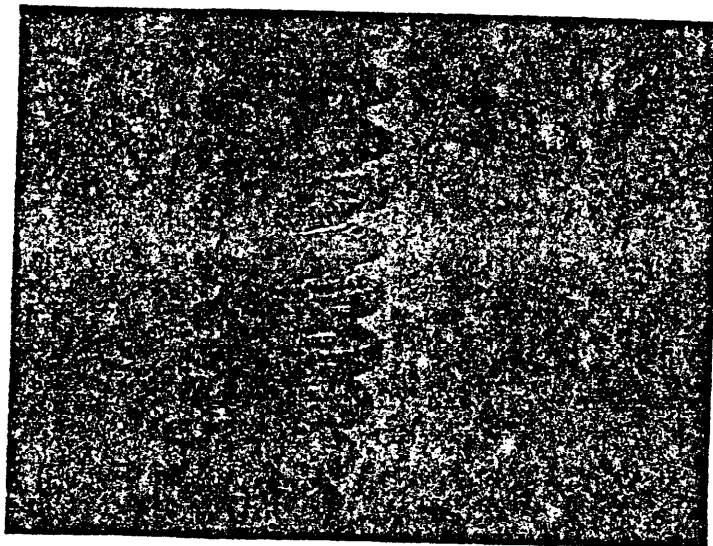


Photo 27: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

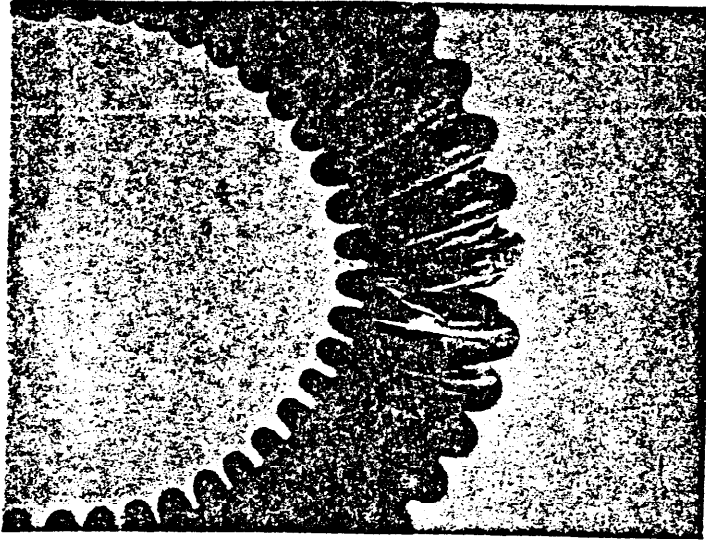


Photo 28: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

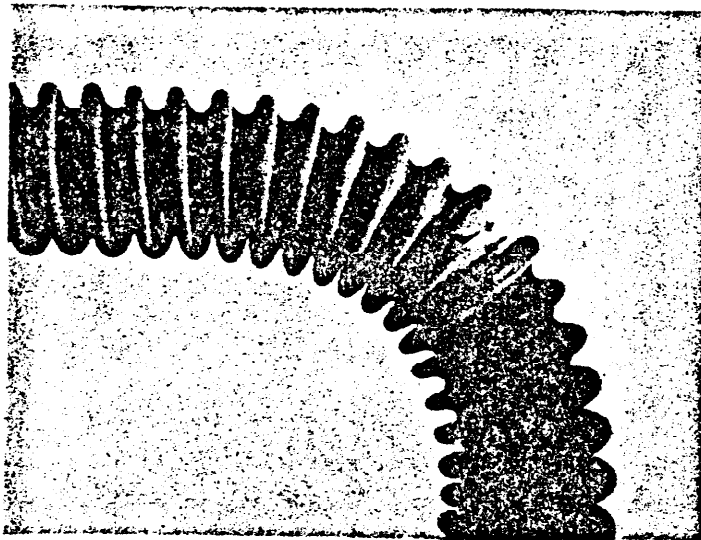


Photo 29: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

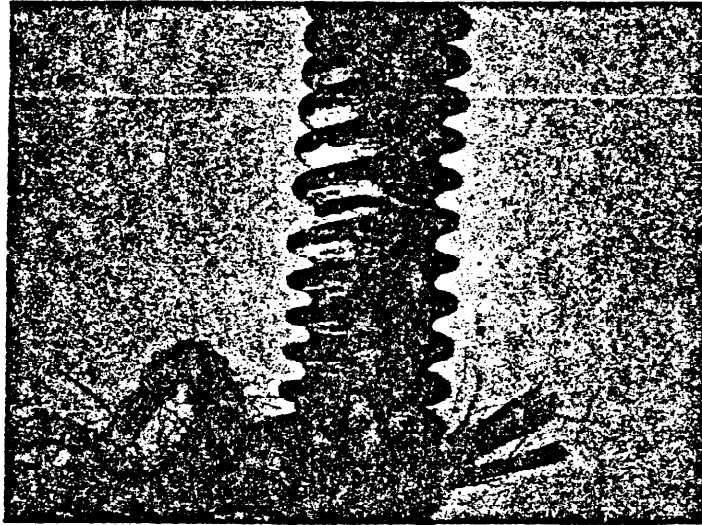


Photo 30: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

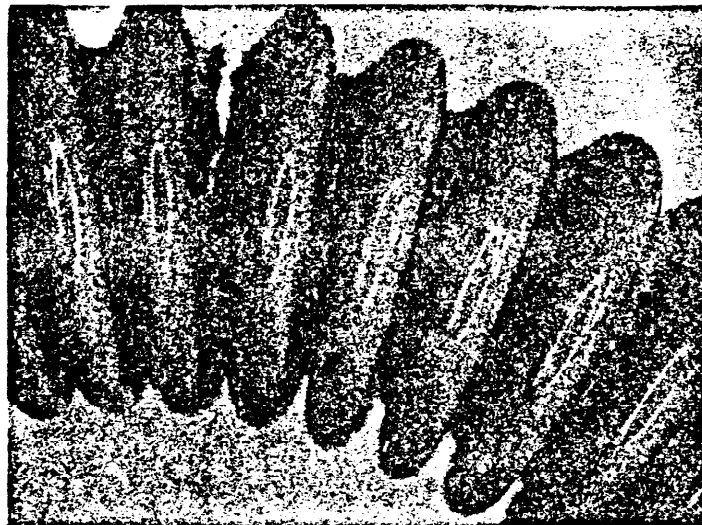


Photo 31: Stress Corrosion Cracking
Induced by Ammoniacal Environment
Specimen [REDACTED]

D

UNITED STATES GOVERNMENT

Memorandum

U.S. CONSUMER PRODUCT
SAFETY COMMISSION
DENVER, COLORADO 80202

TO : Edwin F. Tinsworth
AEDFO

FROM : Victor P. Petralia
Director

SUBJECT: "Cobra" Gas Appliance Hoses

DATE: October 23, 1979

33 Copies ASAP

This memo will confirm our telephone conversation of Tuesday, October 23, 1979, regarding defective gas appliance hoses reported to CPSC by the Public Service Company of Colorado. Attached to the memo is Denver Sample Collection Report No. D8650318 and certain exhibits that describe the situation as of March 15, 1979. At that time, three defective hoses and resulting fires were observed.

In addition to the attached information, the Chicago Area Office notified us that Cobra Manufacturing Company was out of business. Chicago also checked with the American Gas Association (AGA) and found that that group had no information indicating that the Cobra product presented a hazard.

All of the material attached here was submitted to CEPD for their evaluation. On April 2, 1979, Tim Jones called William T. Lang to report that CEPD could not take action since the Company was out of business. He stated that it was the opinion of CEPD that a press release was inappropriate since it might endanger the lives of homeowners who manipulated the hoses in trying to determine if they were defective.

On April 30, 1979, I talked with Mr. Willis G. Brown, a representative of the Public Service Company of Colorado, and the individual who first identified the problem. Mr. Brown was still concerned about the hazard and wanted CPSC to act. Based on the information provided to me, I told Mr. Brown that CPSC did not deny that a hazard existed but rather delegated the problem a lower priority than other issues based on our resource limitations. I suggested that Mr. Brown consider filing a petition with CPSC if he felt that our priorities should be changed. Apparently, Mr. Brown never filed the petition.

On October 23, 1979, Mr. Brown once again called the Denver Area Office. This time, he reported approximately 20 more gas leaks resulting from the same Cobra hose. He said that in at least one-half of these instances, a fire resulted. Wallace Ott, Investigator with the Denver Area Office, reviewed Mr. Brown's records and a report of his findings is attached.

Assuming the product was distributed nationally, we can also assume that the problem is appearing nationally. We can credit Mr. Brown's observation ability for showing the common factor in the fires he investigated. I venture to guess that in other parts of the country, the same hazard exists however the association among the fires and gas leaks has yet to be made.

Edwin F. Tinsworth
AEDFO

October 23, 1979
Page 2

Because the Company is out of business, a Section 15 solution is inappropriate. I suggest that CPSC contact the American Gas Association to jointly resolve the problem. Perhaps, AGA could notify its membership of the defect found in Colorado and together CPSC and AGA issue a press release for the general public.

Sincerely,



Victor P. Petralia
Director
Denver Area Office

Attachments

UNITED STATES GOVERNMENT

Memorandum

U.S. CONSUMER PRODUCT
SAFETY COMMISSION
DENVER, COLORADO 80202

TO : Director of Operations

DATE: October ²³~~27~~, 1979

FROM : Wallace L. Ott

SUBJECT: Cobra Gas Connectors - Cobra Metal Hose - Chicago, Illinois

Mr. W. G. Brown in the Security Section for the Public Service Company of Colorado called the Denver Area Office on this date with further information about an increasing number of defects discovered in gas connectors manufactured by Cobra Metal Hose of Chicago, Illinois. Mr. Brown had previously reported this problem on March 15, 1979 to the Denver Area Office. It was learned at that time that Cobra Metal Hose had been out of business for over 12 years.

I visited Mr. Brown's office to obtain further information on the increased incidence of problems with the Cobra connector. Mr. Brown and Mr. John B. Roller, Investigator, said there had been 24 incidents of leaking connectors since October 11, 1978. Eleven of these were identified as Cobra connectors, but the other 13 connectors were not identified. Six fires and two explosions resulted from leakage of the Cobra connectors. One 85 year old woman was admitted to the hospital and shortly released because she was feeling ill due to inhalation of gas. Beyond this there are no known injuries resulting from these incidents. Both houses involved in the explosions were empty at the time.

Mr. Roller furnished a list of the 24 incidents of leaking gas connectors including dates, addresses and resulting damage, if any. PSC received a recall letter from American Metal Products Company, Los Angeles, California regarding all Model 4G series gas connectors from March 9, 1979 to April 17, 1979, warning that flared tubing may be sheared or weakened when the steel flare nut is tightened. Following receipt of this letter, PSC issued a bulletin to their service men to be aware of this connector also. None of these "Ameri-flex" connectors have been identified in the list of the 24 incidents of leaking connectors. The recall letter was dated June 6, 1979. Copies of the letter and 3 pages of the PSC bulletin concerning the letter are attached.

Attachments



Public Service Company ^{of} Colorado

P.O. BOX 840 - DENVER, COLORADO 80201

Broken Range Connectors

10-11-78		Cobra
10-78		Cobra
1-11-79		Cobra
2-25-79		Fire
2-15-79		Fire
3-4-79		Fire, Cobra
3-8-79		Fire, Cobra
5-3-79		Fire
5-6-79		Fire
5-29-79		Fire, Cobra
6-6-79		Fire
7-25-79		Fire
7-31-79		Fire
8-13-79		Gas in apt., 85 yr. woman to hospital
8-12-79		Explosion, Cobra
8-10-79		Fire
9-5-79		Fire
9-13-79		Fire
9-19-79		House full of gas
9-21-79		
10-16-79		Fire, Cobra
10-16-79		Fire, Cobra
10-12-79		Explosion, Cobra
10-17-79		Fire, Cobra

24 Total - 11 Cobras, 16 Fires and 2 Explosions.

(I.C.B.O.) UNIFORM PLUMBING CODE

Location	Comments
GARAGES Sec. K-10)	<p><u>WATER HEATERS:</u> Water heaters installed in garages must have a minimum clearance of 18 inches between the floor and the bottom of the burner.</p> <p>Water heaters may be installed at floor level inside a garage providing it is enclosed in a separate compartment having access only from outside of the garage and combustion air is taken from outside of the garage.</p>
UNDER STAIRWAYS (Sec. K-10)	<p><u>WATER HEATERS:</u> Water heaters shall not be installed under stairways.</p>
BEDROOMS, BATH- ROOMS, CLOSETS (Sec. K-10)	<p><u>WATER HEATERS:</u> Water heaters shall not be installed in a room used or designed to be used as a bedroom, bathroom, closet or in any confined space with access only through such room or space.</p>
OUTSIDE (Sec. K-10)	<p><u>WATER HEATERS:</u> Water heaters shall not be installed outside of a building unless listed for exterior installation or enclosed in a weather proof housing.</p>

SUBJECT:

Flexible Brass Range Connector Failures.

The occurrence of failure, while in use, of the "Cobra" brand-name, brass flexible connector, has become increasingly common. The type, age and construction all appear to be nearly the same in each case.

This particular brand of connector, although no longer in production, has been involved in at least two fires and several bad leak situations. It can be identified by the following information provided on its metal name tag:

APPLIANCE CONNECTOR
MFD. BY COBRA METAL HOSE
CHICAGO 32

FGA

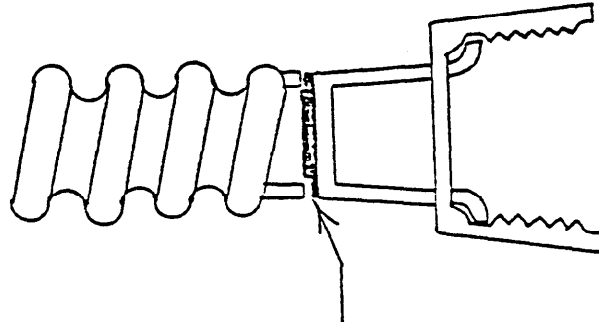
FGA

Note: This connector was manufactured prior to 1967.

* Recently, two (2) other brand name connectors, utilizing the same general type of construction, have been found to be the cause of serious gas leakage while in service.

The connectors in question all share the common construction feature which provides for the end ferrules being soldered to the bellows section by only its wall thickness, which allows only a minimum of strength. (See diagram below.)

Cross Sectional View



Soldered Surface

ACTION:

If connectors with this type of construction are encountered while on the job, the customer should be made aware of its history of failure, due to its end ferrule separating from the corrugated main section of the connector.

It should be recommended to them, that a new connector be installed in its place, and the details of this warning noted on your order. Obtaining the customer's signature on your order, in regard to this warning, would be further protection for the employee and the Company in case the warning is ignored and an accident were to occur in the future.

SUBJECT:

Flexible Brass Range Connectors Failures.

Due to the possibility that some steel flare nuts used on Ameri-Flex gas appliance connectors, Model 4G Series, may cause the connector to fail or be weakened, the following recall notice was issued by American Metal Products Company. See following page.

* Coira

* [REDACTED]

* [REDACTED]

* [REDACTED]

* [REDACTED]

* [REDACTED]

(A good product known as [REDACTED])

* [REDACTED]

* Ameri-Flex

* [REDACTED]

Ron Donovan - 571-8611

* [REDACTED]

• soldering & soap corrosion on pipe



Willis Brown
303-571-7634

American Metal Products Co.

Division of Masco Corporation

6100 Bandini Blvd., Los Angeles, CA 90040 • (213) 726-1941, (213) 723-9211

URGENT

URGENT

AMERI-FLEX GAS APPLIANCE CONNECTORS CERTAIN MODEL 4G SERIES FIELD RECALL NOTICE FACT SHEET

June 6, 1979

We have discovered that some steel flare nuts used on our model 4G series gas connectors from March 9 through April 17, 1979, may cause the flared tubing to be sheared off or weakened when the nut is tightened onto the adaptor.

The following information will assist you in identifying Model 4G Series gas connectors that are being recalled and must be returned.

1. Connector Model:

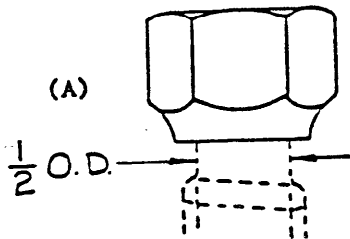
Model 4G series 1/2" O.D. x 3/8" I.D. epoxy coated brass tubing with 1/2" steel flare nuts. (Nuts are plated with a gold color).

2. Carton Identification:

All Model 4G Series cartons stamped "March 9, 1979" through "April 17, 1979" on the yellow label.

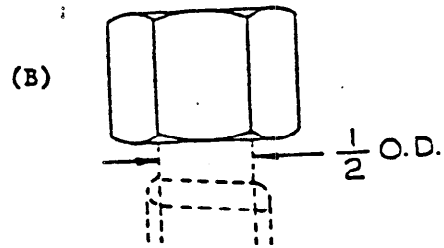
3. Individual Connector Identification:

Connectors can be visually identified by the steel flare nut configuration "A" shown actual size below. Flare nuts of the "B" design are not involved in this recall.



(A)

Nut on recalled connectors with red ring stamped '79



(B)

Nut on connector NOT subject to recall

NOTE:

All AMERI-FLEX connectors are identified with a label and a red ring.

ACTION:

If connectors with this brand and model number are encountered while on the job, the customer should be made aware of its history of failure, due to its end ferrule separating from the corrugated main section of the connector.

It should be recommended to them, that a new connector be installed in its place, and the details of this warning noted on your order. Obtaining the customer's signature on your order, in regard to this warning, would be further protection for the employee and the Company in case the warning is ignored and an accident were to occur in the future.

BULLETIN ORIGINATED BY:

Mike Gutierrez

Mike Gutierrez

Al Coffern

Al Coffern

CONCURRENCE:

Mike Hanzlick
Mike Hanzlick

0607 OER-A0

U. S. CONSUMER PRODUCT SAFETY COMMISSION SAMPLE COLLECTION REPORT							
1. SAMPLE TYPE		2. FLAG			3. SAMPLE NUMBER		
A. OFFICIAL					D - 865-0318		
B. NON-OFFICIAL		4. COLLECTING OFFICE		5. HOME A. O.	6. ASSIGNMENT NO.	7. DATE OF COLLECTION	8. PRODUCT CODE
C. DOCUMENTARY		DEN		CHI		3-15-79	0607
9A. PRODUCT NAME					9B. MODEL		
Flex gas connector and fittings							
10A. MANUFACTURER'S OR IMPORTER'S NAME			10B. IDENTIFICATION NO.		11A. SENT BY ORG.	11B. SENT TO ORG.	11C. DATE SENT
Cobra Metal Hose							
12. OTHER PRODUCT IDENTIFICATION DATA 40" of brass flex connector (gas) with 90° fitting still attached and straight fitting tied to tubing with string. Tubing OD=7/8" and ID=1/2". Lblg. on metal band around flex tubing: "APPLIANCE CONNECTOR MFG'D BY COBRA METAL HOSE CHICAGO, ILL. APPROVED BY THE BOARD OF STANDARDS & APPEALS FOR USE IN NEW YORK CITY UNDER CAL. NO. 965-55-SM AGA".							
(continued on continuation sheet)							
13A. REASON FOR COLLECTION-SUSPECTED VIOLATION: <input type="checkbox"/> FHSA <input checked="" type="checkbox"/> CPFA <input type="checkbox"/> FFA <input type="checkbox"/> PFA <input type="checkbox"/> REA							
13B. ANALYSIS NEEDED-DOC REF. Trade complaint. Possible 15(b) violation. Inferior soldering breaks down causing leaks.							
14. MANUFACTURER			15. SHIPPER		16. DEALER		
Cobra Metal Hose Chicago, Ill.			Unknown		Public Service Com 550 - 15th St. Denver, Colorado 80202		
17. SIZE OF LOT SAMPLED		18. EST. VAL OF LOT AFTER SAMPLING		19. COST OF SAMPLE		20. DATE SHIPPED & DOC. REF.	
N A		N A		N A		N A	
21. SUP. PORTING DOCUMENTS ATTACHED	21A. INVOICE NO. & DATE			21B. SHIPPING RECORDS NO. & DATE			
	N A			N A			
21C. AFFIDAVIT SIGNER'S NAME, TITLE, & DATE							
N A							
22. SAMPLE SIZE, METHODS OF COLLECTION & PREPARATION Tubing and fittings were removed from a house at [redacted] Denver, Colo. after a fire on 1-11-79. Theses were given to CPSC by Messrs. Willis G Brown and Jas. Shomaker of the Public Service Co. [redacted] photo made of the tubing and fittings for identification. Sample officially sealed in plastic bag with heat sealed end turned inside.							
23. IDENTIFICATION ON SAMPLE				24. IDENTIFICATION ON SEAL			
D-865-0318, 3-15-79, WLO"				D-865-0318, 3-16-79, Wallace L.Ott"			
25A. SAMPLE DELIVERED TO			25B. DATE	26. ORIGINAL REPORT/RECORDS SENT TO			
U.S.Mails/Denver, Colo.			3-16-79	John K. O'Conner, CEFD			
27A. LABORATORY (1)				27B. LABORATORY (2)			
J. K O'Conner, CEFD							
28. REMARKS							
ATTACHMENTS:							
1. Memo on continuation sheet				5. Copy of Complaint Report			
2. PSC Service Bulletin #78-12							
3. Xerox copy of both sides of tag attached to tubing							
4. Polaroid photo of tubing and fittings							
N.B.: Public Service requests return of the connector after CPSC examination.							
29. RELATED SAMPLES						32. TIME EXPENDED:	
None						A. LINE FORCE ACTIVITY 4	
30A. COLLECTOR'S NAME & TITLE			30B. COLLECTOR'S SIGNATURE & DATE				
Wallace L. Ott Consumer Safety Officer			Wallace L. Ott 3-16-79				
31A. REVIEWER'S NAME & TITLE			31B. REVIEWER'S SIGNATURE & DATE				
Chance Har, Charles L. O. D.			Charles J. Harrell				
33. COMMENTS						34. TOTAL	
						E. TRANSIT	

CPSC FORM 106 (REVISED 9-78)

SAMPLE RECORD COPY

108

SAMPLE COLLECTION REPORT CONTINUATION SHEET

1. AREA OFFICE <p align="center">DENVER</p>	2. DATE <p align="center">MARCH 15, 1979</p>	3. SAMPLE NO. <p align="center">D - 865 - 0318</p>
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4. ADDITIONAL INFORMATION (continuation sheet and memorandum)
 Block 12 (continued): Labeling on the neck of both fittings: "COBRA METAL HOSE CHICAGO 32"; on the flat hexagonal surface of the straight fitting: "DURO" & "AGA R"; on the flat hex surface of the 90° fitting: "AGA", and on the opposite side a circle divided into a half and 2 quarters .

MEMORANDUM OF CIRCUMSTANCES SURROUNDING COLLECTION OF THIS SAMPLE .

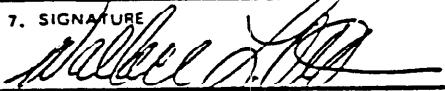
On 3-15-79 Mr. Willis G. Brown, Director of Claims for the Public Service Co. of Colorado, called this office to report that their service men had found a hazard pattern in leaking flexible metal gas tubing connectors manufactured by Cobra Metal Hose, Chicago, Illinois. There had been an estimated dozen replacements of leaking gas connectors over the past year, which is an unusually large number according to Mr. Brown. The leaking connectors had been discarded without any particular notice of the brand name until someone noticed the pattern following 2 fires in early October 1978 which were attributed to leaking Cobra Metal Hose connectors. Following this the company issued Service Bulletin #78-12 dated 10-13-78 which described the hazard and instructed servicemen to warn the customer and recommend replacement whenever the Cobra connector was found. Since that time the following fires have been attributed to these Cobra connectors by the Fire Department:

1. [REDACTED] on 1-11-79 (the connector submitted here as a sample)
2. [REDACTED] 4-79
3. [REDACTED] 3-8-79

Leaking in all cases was caused by the separation of the end ferrule from the corrugated main section. The separation may be due to an inferior soldering job by the manufacturer.

Mr. Brown and Mr. James Shomaker, PSC investigator, brought the tubing and fittings to the Denver Area Office and discussed the problem with Mr. Wm. T. Lang, Compliance Officer, and myself. Mr Brown said that the connectors had been manufactured prior to 1967. They determined this date by a change in ANSI standards in 1965 which became effective in 1967. In order to bear the AGA approval logo (which the Cobra connectors do) they would have had to incorporate the changes in the standards if they were manufactured after 1967. Mr. Brown was not certain what the change in standards constituted (something concerning the tubing flare) but, in any event, learned that none of these connectors had the change. Thereby, they determined that these connectors were manufactured prior to 1967. Mr Brown and Mr. Shomaker stated that PSC had never used the Cobra connector in their replacements.

Mr. Brown and Mr. Shomaker released the connector to CPSC for examination but requested that we return it to them after our examination.

5. EMPLOYEE'S NAME <p align="center">Wallace L. Ott</p>	6. TITLE <p align="center">Consumer Safety Officer</p>	7. SIGNATURE 
--	---	--

2.

D-865-0318
3-15-79
WFO

PUBLIC SERVICE COMPANY OF COLORADO
GAS UTILIZATION AND TESTING
DENVER, COLORADO

October 13, 1978

Service Bulletin #78-12

SUBJECT:

The occurrence of failure, while in use, of the "Cobra" brand-name, brass flexible connector, has become increasingly common. The type, age and construction all appear to be nearly the same in each case.

This particular brand of connector, although no longer in production, has been involved in at least two fires and several bad leak situations. It can be identified by the following information provided on its metal name tag:

APPLIANCE CONNECTOR
MFD. BY COBRA METAL HOSE
CHICAGO 32"

FGA

FGA

Note: This connector was manufactured prior to 1967.

ACTION:

If this connector is encountered while on the job, the customer should be made aware of its history of failure, due to its end ferrule separating from the corrugated main section of the connector.

It should be recommended to them, that a new connector be installed in its place, and the details of this warning noted on your order. Obtaining the customer's signature on your order, in regard to this warning, would be further protection for the employee and the Company in case the warning is ignored and an accident were to occur in the future.

BULLETIN ORIGINATED BY:

Al Coffern
Al Coffern

Concurrence:

Mike Hanzlick
Mike Hanzlick

*Listing of
Cons for [unclear] [unclear]
#939
12/11/78*

110

3.

D-865-0318

3-15-79

(1176)

655 Mc 1400.

20K 1-11-79.

[Handwritten signature]



11/13/79
Brimman - please deliver
to gas lab. at your convenience
Thanks CO



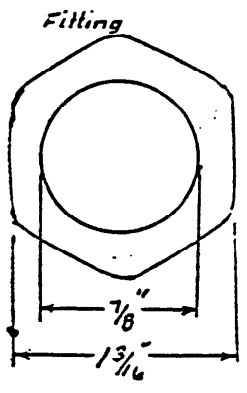
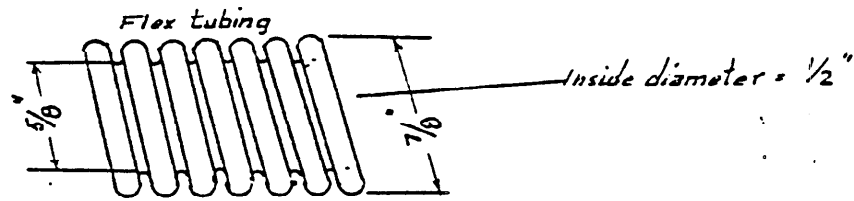
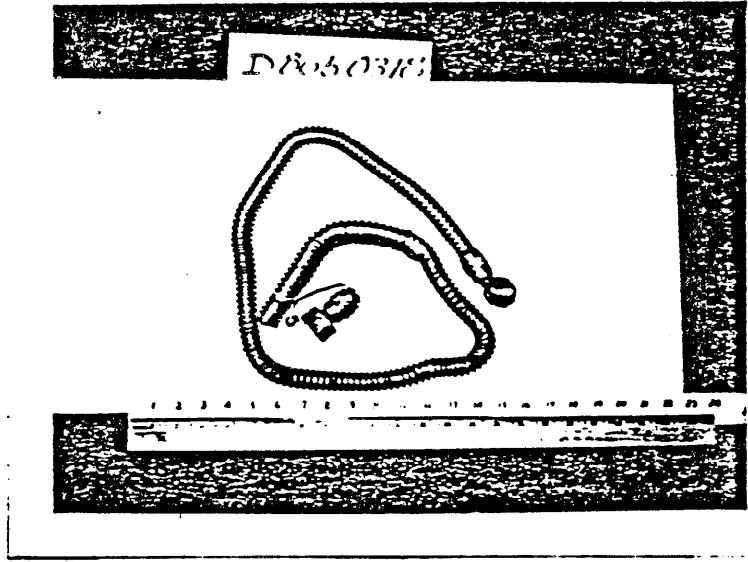
///

EXHIBIT NO.

4

MAR 15 1979

D-865-0318



CONSUMER PRODUCT COMPLAINT REPORT

1. NAME OF COMPLAINANT PUBLIC SERVICE COMPANY		2. TELEPHONE NO. 571-7511 ext 7634	3. DATE OF INCIDENT 3-15-79
4. STREET ADDRESS 550 15th Street		5. CITY, STATE, ZIP CODE Denver, CO 80202	
6. DESCRIPTION OF PRODUCT(S) Brass flexible hose for connecting gas appliances to gas line.			
7. BRAND NAME COBRA		8. MODEL/STYLE NO. UNKNOWN	
9. SERIAL NO. UNKNOWN		10. LOT/BATCH NO. UNKNOWN	
11. MANUFACTURER, IMPORTER OR DISTRIBUTOR NAME AND ADDRESS COBRA METAL HOSE CHICAGO, ILLINOIS		12. DEALER NAME AND ADDRESS UNKNOWN. BUT PRESUMED TO BE SEVERAL IN DENVER COLORADO AREA.	
13. HOW PRODUCT ACQUIRED PURCHASED NEW <input checked="" type="checkbox"/> SECOND HAND <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY _____			
14. SAMPLE AVAILABLE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		15. WARNING LABEL YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	16. INSTRUCTIONS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
17. PRODUCT DAMAGED BEFORE INCIDENT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	18. PRODUCT REPAIRED BEFORE → INCIDENT ← AFTER YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		19. AGE OF PRODUCT (ESTIMATE IF NECESSARY) 12 years or more
IF INJURY OR ILLNESS COMPLETE ITEMS 20 - 24			
20. VICTIM'S AGE N/A	21. VICTIM'S SEX MALE <input type="checkbox"/> FEMALE <input type="checkbox"/>	22. BODY PART(S) INVOLVED N/A	
23. TYPE OF INJURY OR ILLNESS BURN <input type="checkbox"/> FRACTURE <input type="checkbox"/> CUT <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY N/A			
24. MEDICAL TREATMENT RECEIVED PHYSICIAN'S OFFICE <input type="checkbox"/> EMERGENCY ROOM <input type="checkbox"/> OTHER HOSPITAL <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY N/A			
25. GIVE DETAILS OF COMPLAINT, INJURY, OR ILLNESS. DESCRIBE HOW INCIDENT OCCURRED. USE REVERSE SIDE IF NECESSARY. Mr. Willis G. Brown, Claims Dept., telephoned DEN-AO on 3-15-79 and reported they may have a pattern of home fires that were caused by a defective gas line connector. He and Mr. James Shomaker, Investigator, came immediately to the office and brought along one defective device that was removed from a home after a fire in the kitchen. Public Service Co. (PSC) records were checked and revealed that a fire in Jan. 1979 and 2 fires in March 1979 were all caused by Cobra connectors. In each case the metal ferrule which is soldered to the brass flexible hose becomes disconnected and the gas that escapes ignites and sets the kitchen on fire. No injuries have occurred so far. Fires in the past from the same condition may have been Cobra hoses, but PSC records did not show this. PSC is seeking CPSC help in issuing a press release to alert homeowners to this problem. (SEE ATTACHED PAGE)			
FOR COMMISSION USE ONLY			
26. RECEIVING OFFICE DEN-AO	27. DATE RECEIVED March 15, 1979	28. RECEIVED BY W.T. Lang, Comp. Officer	
29. SOURCE OF REPORT LETTER <input type="checkbox"/> PHONE <input type="checkbox"/> VISIT <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY _____			30. DOCUMENT NO. E930040
31. FOLLOW-UP ACTION CHI-AO Notified. CEPD will examine sample hose.			32. PRODUCT CODE(S) 0607
33. DISTRIBUTION (CEPD) CHI-AO; DEN-AO Files + HIEI		34. ENDORSER'S NAME AND TITLE Charles L. [Signature] [Signature]	

Consumer Complaint Report Form
Public Service Company
Denver Colorado 80202

Re; Cobra Hose Gas Connector

According to Mr. Brown, one of their investigators noticed that the last two house fires he had investigated were caused by the same gas hose connector. The Denver Fire Department calls in PSC whenever they feel that a gas appliance may have been the cause of the fire. Examination of the PSC investigation records showed three fires in the Denver area in 1979.

PSC stated that there was an ANSI standard which went into effect in 1967 that made corrections to gas hose connectors that do not appear on these units. Therefore PSC feels that these connectors are from stock that was made before 1967. PSC also feels that the Cobra Metal Hose firm probably is out of business. The hose that was provided as a sample bore a metal wrap-around tag that stated "APPLIANCE CONNECTOR MFG'D BY COBRA METAL HOSE CHICAGO, ILL. APPROVED BY THE BOARD OF STANDARDS & APPEALS FOR USE IN NEW YORK CITY UNDER CAL. NO. 965-55-SM AGA".

The purpose of PSC notification to CPSC was that a press release probably should be issued warning homeowners that if they have such a connection in their home, a reputable repairman should be called in to check the appliance connection to determine if it also presents a possible hazard with a poor solder connection. PSC provides this service to homeowners and feels that if CPSC issues the notice or press release, it will not appear that PSC is seeking more business for itself.

John O'Connor of CEPD was notified by telephone on 3-15-79 and asked that the sample hose be sent to him for examination and that he will get in touch with DEN-AO to tell us what the analysis showed. I assume that the units were distributed nationwide by Cobra Metal Hose and therefore a national press release would be necessary instead of just a local press release.

At this time, no known injuries or deaths have been attributed to this gas connector. The potential is there, however.

William T. Lang

William T. Lang
Compliance Officer

0607

CONSUMER PRODUCT COMPLAINT REPORT

1. NAME OF COMPLAINANT PUBLIC SERVICE COMPANY		2. TELEPHONE NO. 571-7511 ext 7634	3. DATE OF INCIDENT 3-15-79
4. STREET ADDRESS 550 15th Street		5. CITY, STATE, ZIP CODE Denver, CO 80202	
6. DESCRIPTION OF PRODUCT(S) Brass flexible hose for connecting gas appliances to gas line.			
7. BRAND NAME COBRA		8. MODEL/STYLE NO. UNKNOWN	
9. SERIAL NO. UNKNOWN		10. LOT/BATCH NO. UNKNOWN	
11. MANUFACTURER, IMPORTER OR DISTRIBUTOR NAME AND ADDRESS COBRA METAL HOSE CHICAGO, ILLINOIS		12. DEALER NAME AND ADDRESS UNKNOWN. BUT PRESUMED TO BE SEVERAL IN DENVER COLORADO AREA.	
13. HOW PRODUCT ACQUIRED PURCHASED NEW <input checked="" type="checkbox"/> SECOND HAND <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY _____			
14. SAMPLE AVAILABLE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		15. WARNING LABEL YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	16. INSTRUCTIONS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
17. PRODUCT DAMAGED BEFORE INCIDENT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	18. PRODUCT REPAIRED BEFORE \rightarrow INCIDENT \leftarrow AFTER YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		19. AGE OF PRODUCT (ESTIMATE IF NECESSARY) 12 years or more
IF INJURY OR ILLNESS COMPLETE ITEMS 20 - 24			
20. VICTIM'S AGE N/A	21. VICTIM'S SEX MALE <input type="checkbox"/> FEMALE <input type="checkbox"/>	22. BODY PART(S) INVOLVED N/A	
23. TYPE OF INJURY OR ILLNESS BURN <input type="checkbox"/> FRACTURE <input type="checkbox"/> CUT <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY N/A			
24. MEDICAL TREATMENT RECEIVED PHYSICIAN'S OFFICE <input type="checkbox"/> EMERGENCY ROOM <input type="checkbox"/> OTHER HOSPITAL <input type="checkbox"/> OTHER <input type="checkbox"/> SPECIFY N/A			
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Consumer Complaint Report Form
Public Service Company
Denver Colorado 80202

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William T. Lang

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Compliance Officer

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Public Service Company of Colorado

P.O. BOX 640 · DENVER, COLORADO 80201

October 25, 1979



Consumer Product Safety Commission
817 - 17th St., Suite 938
Denver, Colorado 80202

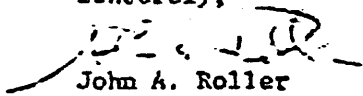
Attn: Mr. Wallace L. Ott

Dear Mr. Ott:

Enclosed is an article from a recent Broomfield Newspaper regarding flexible connectors.

At [redacted] at 3 a.m. on October 24, 1979, there was a fire at the range which was caused by a broken flex connector. The brand name is unknown.

Sincerely,


John A. Roller
Claims Department

JAR:eg

Enclosure

*More information on flex connectors
Please add to the package*

*Thank
you*

In older Broomfield homes

Gas pipes could be dangerous

by SWAN TOWNSEND
The [redacted] and [redacted] from there a copper flex line connects to [redacted] said the things in common. They live [redacted] pipe had pulled away from the coupling which held it to the outside line.

Street, their homes were among the first built in Broomfield, and until recently, their gas furnaces were equipped with flex pipe, a potentially hazardous connector no longer allowed on gas furnaces.

The [redacted] replaced the pipes earlier this fall after breaks in the pipes allowed gas to leak into both homes.

Flex pipe, a coiled copper or brass pipe, is no longer allowed on gas furnaces or water heaters about 10 years ago, said Chief Building Inspector Herb Paddock.

The old part of Broomfield is where you have the problem. Houses built in the last 10 years, there's no problem with them, Paddock said.

[redacted] discovered her gas leak about 7 a.m. Aug. 17 when she got up. Gas had filled the basement and its odor was apparent in the rest of the house.

face connections and air about the same age.

"I feel it is potential problem for all people having those kind of furnaces," she said, adding that if the break was due to corrosion pipes in other homes could also be corroded. Both the [redacted] homes were built 21 years ago and have the original furnaces.

"The city should inform people to repair their furnaces," she said.

Richard Taylor of Broomfield Plumbing and Heating, who replaced the pipe in the [redacted] home, estimated three-fourths of the homes in Broomfield's first filling may have flex pipes on furnaces or water heaters.

Paddock agrees the problem is widespread. "I think every old house in town has that flexible pipe," he said adding that seven or eight years ago, he put out information on the problem.

Paddock said the older the pipe gets, the more dangerous it becomes and that fall is a dangerous time because people turn their furnaces back on.

Homebuilders used to use flex pipe all the time, he said. When Paddock started as the city's building inspector 10 years ago he got the city council to disallow flex pipe in favor of solid pipe and require shut-off valves

as part of the building code. But the code applies only to new housing and the city can't force anyone to replace flex pipes or install shut-off valves, he said.

"If it's not black pipe on the furnace and water heater, it's wrong," he said.

Taylor agreed, saying a little stress can cause a flex pipe to pull apart while the required black pipe is less susceptible to stress. Taylor said he had made three or four calls where flex pipes have broken on furnaces.

The city code requires shut-off valves on all appliances and Agee said the valves allow a homeowner to shut off gas to the affected appliance and solve the immediate leakage problem. Without them the gas has to be turned off from outside.

The [redacted] had Taylor come out that same day and install turn-off valves.

"It's not that expensive," her bill was \$58, she said, saying "It was an emotional thing, the whole house was filled with gas. If one house can be protected, it's worth it," she said.



[redacted] holds the flex hose to her furnace broke off Aug. 17, allowing gas to leak into her house. Such pipes are no longer allowed on gas furnaces and water heaters in Broomfield's new homes.



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Memorandum

TO : FILE CCC DATE: July 19, 1979
 Through: Catherine C. Cook, Director, CEPD
 Through: Hazard Assessment Committee JP
 FROM : Elizabeth Haught, Project Officer, CEPD in
 SUBJECT: Hazard Assessment Committee Recommendation for Preliminary
 Determination; RP 79-152; Masco Corporaton; Ameri-Flex Model
 4 G Gas Connector

Recommendation

The Hazard Assessment Committee has made a preliminary determination that the product presents a substantial product hazard and recommends that corrective action be sought.

Date of Report

June 6, 1979

Date of Meeting

July 5, 1979

Defect

1. Defect Reported by Company: The Masco Corporation reported that certain AMP Model 4 G Gas Connectors, manufactured from March 9, 1979 through April 17, 1979 may be subject to shearing or weakening when the gas connector nut is tightened onto the adaptor. The damaged or weakened connection may result in gas leakage.

2. Assessment: The Committee considered the reported problem to be a defect.

Risk of Injury

1. Pattern of Defect: According to the company, the defect arose because of a quality control error. It was discovered during a routine installation that the connectors

were shearing or weakening the tubing when the steel nut was tightened. The Committee believes that this condition might not be apparent during installation and subsequently could result in an explosion or fire.

2. Number of Defective Products Distributed in Commerce: The company estimated that approximately [redacted] gas connectors were assembled between March 9 and April 17, 1979. These units were shipped to customers between March 9 and June 4, 1979.

3. Severity of Risk

a. Seriousness of Injury - The Committee believed that serious injuries would result if the defect was not observed while the gas connector was being installed. Gas leakage could result in an explosion or fire. Injuries could range from first to third degree burns or death.

b. Likelihood that an injury would occur - Although no injuries have been reported, the Committee believes that injury is highly likely. Since it is believed that there is a possibility of gas leaks or breakage of the tube sometime after the gas connector is installed, as well as the fact that some of these gas appliances may be installed in rooms not in general use, the Committee believes that gas leakage could occur and reach a dangerous level before members of a household became aware of the problem. All members of a household would be exposed to the risk of injury.

c. The Committee considered the severity of the risk to be high.

4. Assessment of Substantiality of Risk: Because the defect is believed to be present in all of the approximately [redacted] units distributed throughout the United States and the severity of risk is believed to be high, the Committee assessed the risk of injury to be substantial.

Hazard Assessment Committee Members

- John O'Connor
- Frank Pipkin *FP*
- Tony Rossi
- Ed Pascarella
- Mel Kramer
- Tim Jones
- Elizabeth Haught

RESTRICTED

RESTRICTED

EMERGING HAZARDS PROGRAM

TEAM MEETING AGENDA*

NOVEMBER 5, 1979

- o "COBRA" GAS LINE AND EXPLOSION HAZARDS
--Ross Koester
- o REVIEW OF E H PROPOSALS FOR PRIORITY DEVELOPMENT
AS DRAFT RECOMMENDATIONS
- o DOUBLE CYLINDER, DEAD-BOLT LOCKS
-- Debbie Kale H I E A

*Meeting will take place in Room 802 at 2:30 P.M.

UNITED STATES GOVERNMENT

U.S. CONSUMER PRODUCT
SAFETY COMMISSION

Memorandum

TO : Emerging Hazards Team Representatives

DATE: 19 NOV 1979

FROM : Douglas L. Noble, ^{DEN} Program Manager, Emerging Hazards, Office of Program Management (OPM)

SUBJECT: Status of Activities re Flexible Metal Gas Appliance Connector Lines, Brand-Named "Cobra."

Contact has been established with the American Gas Association (AGA) to address the reported problems of residential fires/gas explosions associated with "Cobra" flexible metal connector lines. As indicated in our November 5, 1979, meeting, AGA was to be asked whether they would want to cooperate with CPSC in addressing the problem. Don Mackay, OPM, Director of Voluntary Standards, has spoken with Mr. Frank Hodgden, Director of AGA laboratories, and the following information was exchanged:

- Hodgden was not personally aware of the "Cobra" reports from the Colorado Public Service Company.
- AGA probably certified "Cobra" gas connectors before they were distributed.
- AGA agreed CPSC should attempt to obtain records from the now-defunct manufacturer to identify distribution problems.
- I am making the recommendation that Chicago Area Office try to establish whether "Cobra" distribution records still exist and whether CPSC can review them.
- Hodgden indicates that since many local jurisdictions accept flexible connectors, the potential exists that the "Cobra" connectors may have been widely distributed.
- AGA would be willing to cooperate with CPSC to work out a public notification of the problem in conjunction with local gas companies.
- AGA has encountered this type of problem in the past, in local areas, where a gas with high sulfur content has accelerated corrosion of gas lines.
- Stan Blackman of AGA laboratories will be contacting Mr. Brown of the Colorado Public Service Company to discuss the reported problem and Don Mackay will be forwarding copies of DEN's information to Hodgden for review.

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It should be noted that the Commission has, evidently, never taken formal action to address the general problem of deterioration of gas lines in the past. This type of cooperative effort with AGA would be the first time the CPSC has moved to address this type of problem so there is no specific precedent to follow either in terms of corrective action or method of notification.

DEN also provided information on a similar connector problem reported by American Metal Products, Company. Mel Kramer, of the Division of Product Defect Identification (CEPD), has informed me that a case was opened by CEPD on this problem. The case is about to be closed and a re-call was involved. American Metal Products, unlike the "Cobra" manufacturer, is still in business so a product re-call was a viable option to follow.

cc: George Anikis, OPM
Don Mackay, OPM

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