Air Resources Board

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Sacramento, California 95812 • www.arb.ca.gov

Alan C. Lloyd, Ph.D.
Agency Secretary

Arnold Schwarzenegger
Governor

April 26, 2005 #03-12b

Mr. Andrea Ticci
SMARTFLEX Product Manager
NUPI Americas, Inc.
10101 Southwest Freeway, Suite 400
Houston, Texas 77074

Dear Mr. Ticci:

On November 24, 2003, the California Air Resources Board (ARB) issued Approval Letter #03-12a for NUPI's *UL/ULC Listed SMARTFLEX®* (NUPI) semi-rigid pipe and fittings for use in *Vapor Recovery Piping* applications. Concerns regarding recent installation of this product has prompted the need for additional clarification. One concern was that the approved pipe was not clearly identified in Approval Letter #03-12a. The enclosure identifies the NUPI pipes by pictorial as well as size. Installation checklist for the NUPI pipe system is also available and included with the NUPI *Technical Catalogue*.

The NUPI pipe system submitted for ARB testing was: TSMA – single wall pipe and TSMAD – double wall, in straight lengths. The NUPI pipe system consists of a high-density polyethylene (HDPE) pipe with an internal organic alloy barrier lining, which reduces hydrocarbon permeation through the pipe (see Enclosure). NUPI fittings (single and double wall) are also manufactured with HDPE. The pipes and fittings are connected by electro-fusion welded joints and have full secondary containment – when NUPI double wall fittings are utilized. **Note:** *Only the NUPI semi-rigid piping that comes in straight lengths has been evaluated for use as vapor return piping.*

With the exception of the slope, the following list of additional requirements and recommendations from Approval Letter #03-12a still apply for NUPI piping. The pipe slope must be a minimum1/8 inch per foot.

- USTs shall be manifolded together underground.
- Piping used for vapor piping shall be from straight pipe sections with a bend radius not to exceed the limits set forth in CP-201. No piping sold or transported in rolls (coils) shall be used.
- Inspection and verification of proper slope are at least 1/8 inch per foot after final grade of the pipe bedding has been established and prior to back-filling piping

trenches. Bedding material (pea gravel or like) should be brought up to at least 50 percent and no more than 90 percent of pipe diameter prior to inspection.

- Back-pressure and liquid blockage testing of the vapor return piping from the dispensers to the USTs are recommended after final grade of vapor return pipe bedding has been established and prior to back-filling. If conducted, the test shall be conducted in accord with TP-201.4, the Dynamic Back-Pressure Test.

- Back-pressure and liquid blockage testing are required once final grade of station has been established and all finished surfaces applied. The test shall be conducted in accordance with TP-201.4, the Dynamic Back-Pressure Test.

- Back-pressure and liquid blockage testing of the NUPI - *SMARTFLEX* pipe system at GDFs are recommended to be performed annually in accordance with TP-201.4, the Dynamic Back-Pressure Test.

The NUPI pipe system (single and double wall), when installed in accordance with the manufacturer's instructions and the requirements and recommendations listed above, will not adversely affect the performance of a Phase II vapor recovery system utilizing USTs and buried vapor return piping. Therefore, the *NUPI- SMARTFLEX* semi-rigid piping system may continue to be used in Phase II vapor recovery applications.

If you have questions or need further assistance, please contact Sam Vogt at (916) 322-8922 or via email at svogt@arb.ca.gov or Joe Guerrero at (916) 324-9487 or via email at jguerrer@arb.ca.gov.

Sincerely,

William V. Loscutoff, Chief
Monitoring and Laboratory Division

Enclosure

cc: See next page

cc: Elizabeth Haven
State Water Resources Control Board

Mr. Jim Johnston
Monterey Bay Unified Air Pollution Control District

Ms. Tania Leisten
Monterey Bay Unified Air Pollution Control District

John Marvin
Bay Area Air Quality Management District

Mr. Randy Matsuyama
South Coast Air Quality Management District

Mr. Sam Oktay
Mojave Desert Air Quality Management District

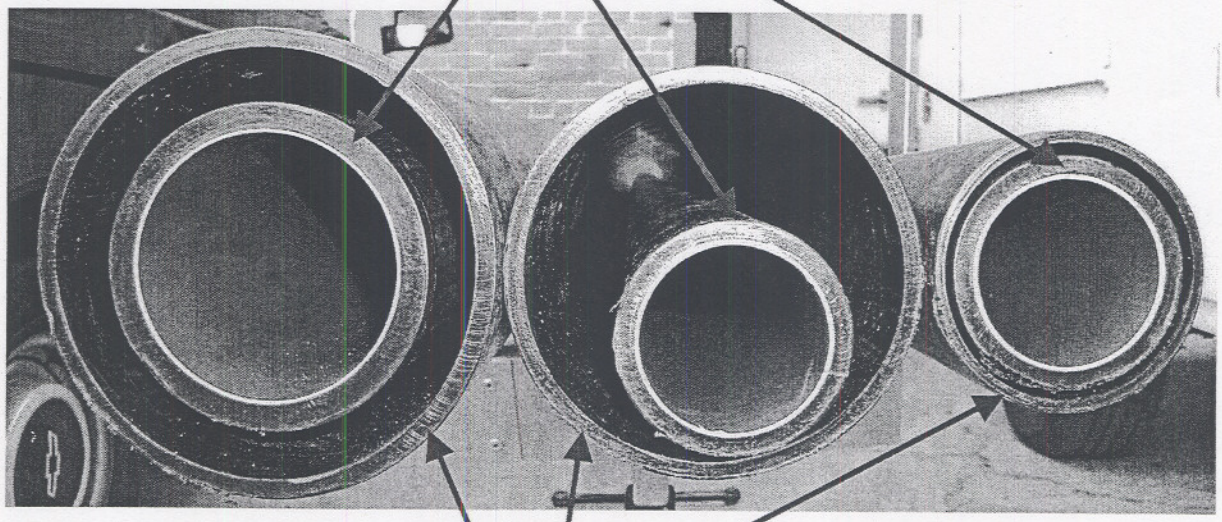
Mr. Randy Smith
San Diego County Air Pollution Control District

Jerry Usrey
NUPI Americas, Inc.

ENCLOSURE

	SIZE	I.D.	O.D.
Primary	2"	2"	2 ½"
	3"	2 7/8"	3 ½"
Secondary	3"	2 5/8"	2 7/8"
	4"	3 7/8"	4 ¼"
	5"	4 ½"	4 7/8"

Primary Pipe: 3 ", 2 ", and 2 "



Secondary Pipe: 5 ", 4 ", and 3 "

Note: A double-wall pipe consists of a primary pipe inside a secondary pipe, while a single wall pipe consists of a primary pipe only. A primary pipe can be recognized by a green internal lining running the length of the pipe.

INDUSTRIAL DIVISION

February 11, 2005

George Lew
Chief-Engineering & Certification Branch
Monitoring & Laboratory Division
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Subject: NUPI – SMARTFLEX re: CARB Approval #03-21a

Dear Mr. Lew

In response to your e-mail dated January 24, 2005 and, your requests for additional product and installation guidelines of NUPI's – *SMARTFLEX* double wall piping systems, for use in Phase II Vapor Recovery applications, the following information is presented for your review.

1. Instructions for installing double wall pipe:

Please find enclosed a copy of NUPI's - *Technical Catalog #195 E 01*, dated: 2/2004. While our technical catalog does not specifically outline a series installation procedures or steps for installing our double wall piping systems in various petroleum applications, such as, conveying petroleum products or phase two vapors or venting UST's, our technical catalog does in fact make a specific reference to using *"straight pipe lengths **only** for vapor recovery and vent piping runs"* regarding, compliance to CARB's recommendations.

In the paragraph following the above referenced statement, we also publish the following statements: "*Typically, all piping should slope at least 1/8" per foot (1cm per meter) toward the tank. Support pipe properly to prevent traps or sumps."*

The above published recommendations are specific to the advance planning of the "Piping Layout" and are essential for maintaining the overall performance/operation of each piping system installed, whether it is single wall or double wall pipe.

Note: It is the requirement of NUPI that, all pipe installers be trained/certified by a *SMARTFLEX* instructor. Each trained/certified pipe installer is presented a complete *SMARTFLEX* product catalog which contains our *Technical Catalog #195 E 01*, dated: 2/2004. Prior to each installers participation in hands-on product training, a thorough review of our technical catalog regarding, all phases of installation & system testing is completed. Upon completion of certification training each pipe installer completes an *SMARTCard* Application Form and a photograph is taken of the installer as well. The *SMARTCard* identifies the certified/trained installer regarding, the operation of our electro-fusion welding equipment which is a requirement for NUPI's – 30 year product warranty. Each certified installer also has the responsibility to provide NUPI with a copy of the electro-fusion welding report and 30-year warranty application, which confirms that each *SMARTFLEX* installation was in fact installed by a certified welder/installer. A listing of NUPI – Certified Welders can be

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view by accessing our Interactive Tracking System at nupinet.com.

2. Provide assurances that the installed single and double wall pipe systems are installed with proper slope (grade):

We believe that the following requirements, as they are stated within NUPI's CARB Approval #03-12a, dated November 24, 2003, do in fact provide sufficient assurances that the vapor recovery and vent piping systems are installed with proper recommended slope (grade).

a. *Inspection and verification of proper slope are recommended after final grade of the pipe bedding has been established and prior to back-filling piping trenches. Bedding material (pea gravel or like) would need to be brought up to at least 50% and no more than 90% of pipe diameter prior to inspection.*

b. *Back-pressure and liquid blockage testing of the vapor return piping from the dispensers to the UST's shall be performed after final grade of vapor return pipe bedding has been established and prior to back filling.*

c. *Back-pressure and liquid blockage testing shall be performed once final grade of station has been established and all finished surfaces applied.*

d. *At a minimum, back-pressure and liquid blockage testing of NUPI's – SMARTFLEX piping for use in Phase II vapor return applications at GDF's, shall be performed annually.*

While there is no specific reference to the requirement of a minimum 1/8" per foot slope or a 1/4" per foot slope preferred, we believe that our double wall piping (straight lengths only) will perform adequately within these limitations. For your review I have enclosed a ***pipe sagging*** example which demonstrates the functionality/performance of our double wall pipe with a minimum 1/8" per foot slope

3. Results from liquid and blockage tests from gasoline dispensing facilities located in California:

To date, their are three (3) ChevronTexaco service stations that incorporate NUPI's-*SMARTFLEX* double wall piping system (3"/5" diameter) for conveying Phase II vapors to UST's. Since NUPI does not require or request copies for *certified* liquid and blockage test results, we are unable to provide this information. However, it is our understanding that Mr. Jim Johnston, with Monterey's AQMD agency, has already provided CARB with a copy of the *certified* liquid and blockage test results from the ChevronTexaco recently installed in Monterey. The test results confirm that NUPI's 3"/4" double wall pipe in 35-ft. straight lengths – complies with CARB's published testing standards.

4. Locations of California facilities where the NUPI SMARTFLEX pipes are installed.

See below a listing of other ChevronTexaco locations which incorporate NUPI's 3"/4" double wall pipe in 35-ft. straight lengths – conveying Phase II vapors.

A. ChevronTexaco - SS# 30-1124	2115 Olympic Parkway, Chula Vista, CA 91915
B. ChevronTexaco - SS# 9-8119	7368 Figueroa Street, Los Angeles, CA 90041
C. ChevronTexaco - SS# 21-0857	2400 Freemont Blvd., Monterey, CA 93949

INDUSTRIAL DIVISION

We trust that we have responded adequately to your questions and that the information presented within this correspondence will enable CARB to issue a supporting letter as an endorsement to NUPI's current CARB Approval Letter #03-12a. Should your office require any additional and/or supporting documentation, please do not hesitate to contact me at your earliest opportunity.

We respectfully await your pending comments.

Kind regards,

Andrea Ticci
SMARTFLEX Product Manager
NUPI S.p.A

cc: Dan Wendt
Jerry Usrey
Tom Bott
Paul Thalken

Enclosures: NUPI Technical Catalog
Pipe Sagging Example
NUPI – CARB Approval Letter

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