

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

**CONSUMER SERVICES DIVISION
UTILITIES SAFETY BRANCH**

**RESOLUTION SU-47
Date: June 4, 1998**

RESOLUTION

RESOLUTION SU-47, AMENDING RESOLUTION SU-33 TO ALLOW CALIFORNIA GAS OPERATORS TO INSTALL PLASTIC PIPE ENCASED IN PLASTIC CASING ABOVE GROUND LEVEL, INTERNAL TO BRIDGE STRUCTURES

SUMMARY

1. On July 6, 1995, the California Public Utilities Commission (Commission) issued Resolution SU-33 authorizing deviation from General Order (G.O.) 112-E, Reference Title 49 of the Code of Federal Regulations (49 CFR), Part 192, Section 192.321(a), which requires plastic gas pipe to be installed below ground level only. The deviation allowed gas operators in California to install plastic gas pipe, encased in steel pipe, above ground level across bridges.
2. By letters dated July 1, 1997, and April 2, 1998, San Diego Gas and Electric Company (SDG&E) requested further deviation from Section 192.321(a) to allow plastic pipe, encased in plastic casing, to be installed above ground level across bridges.
3. This Resolution amends Resolution SU-33 and authorizes deviation from Section 192.321(a) to allow the installation of plastic pipe encased in plastic casing above ground level, internal to bridge structures for all investor owned gas utilities in the State of California.

BACKGROUND

1. Public Utilities (P.U.) Code Sections 702 and 768 grant the Commission authority to establish and enforce standards of construction, maintenance, and operation of utility systems. Rules governing design, construction, testing, maintenance, and operation of utility gas piping systems are codified in G.O. 112-E. The Utilities Safety Branch (USB) oversees utility compliance with G.O. 112-E.
2. G.O. 112-E, Reference 49 CFR, Part 192, Section 192.321(a) of G.O. 112-E states: "Plastic pipe must be installed below ground level."

3. G.O. 112-B, Subpart A, Section 101.3, authorizes the Commission to grant deviation from the General Order.

4. Since the CPUC has adopted 49-CFR by reference, the gas operators in California must also seek a waiver from DOT under Section 190.339 or applicable section of 49-CFR

DISCUSSION

1. Since the Commission's issuance of Resolution SU-33, SDG&B has completed several above ground plastic pipe installations in the coastal plains areas with excellent results. SDG&B has been monitoring the polyethylene (PE) pipe temperatures, as required by SU-33 and the temperatures have not approached the pipe's design temperature.

2. SDG&B sees the deviation as having several benefits:

- It would improve and expedite the installation of PE across bridges at lower cost.
- It would eliminate potential corrosion and maintenance associated with a steel casing.
- The use of non-metallic casing will improve flexibility to seismic movement.

3. In 1994, the Canadian Western Natural Gas (CWNG) installed two parallel eight-inch PE gas pipes inserted in two 12-inch polyvinylchloride (PVC) casings inside the structure of the Louise Bridge in the City of Calgary. The benefits were lower installation and maintenance costs, ease of construction, and no need for cathodic protection.

4. In order for the installation to be safe, the plastic casing and the PE pipe must not be exposed to ultraviolet light for any period of time. In addition, the casings of all PE pipe (main or service) installed above ground level, internal to bridge structures, must comply with G.O. 112-B, Reference 49 CFR, Section 192.323 requirements.

5. PE pipe installed above ground with plastic casing, internal to bridge structures, must be located where damage by external forces is unlikely or must otherwise be protected against such damage.

6. To minimize the effect of thermal stress on joints, fusion (instead of mechanical) joints must be used for tie-in connections, or, in lieu of joints, the PE pipe section, inside the casing, must be one piece with no connection joints.

FINDINGS

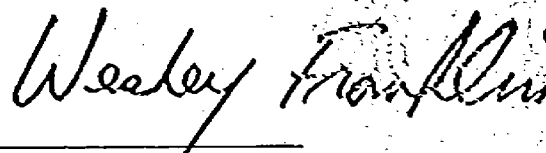
1. Studies and results obtained from similar projects involving above ground PE pipe installations internal to bridge structures, have shown no indications of unsafe operations or any safety hazards associated with such installations.
2. Seismic safety considerations suggest that the installation of PE pipe inserted in plastic casing, internal to a bridge structures, will increase the gas system's ability to withstand seismic events.
3. Plastic casing costs less than steel pipe and requires little or no maintenance.
4. The deviation should be granted to all regulated gas utilities to provide them with an opportunity to implement this cost-saving, seismic-resilient construction practice in their service areas.
5. The USB staff, of the Consumer Services Division, has reviewed SDG&E's petition and concurs with SDG&E's request for deviation.

THEREFORE, IT IS ORDERED THAT:

1. Gas operators may deviate from G.O. 112-E, Reference 49 CFR, Section 192.321(a), by installing PE gas pipe, encased in plastic pipe, above ground level, internal to bridge structures, provided that the following conditions are adhered to:
 - a) No portion of the PE gas pipe or its plastic casing shall be exposed to ultraviolet light for any period of time.
 - b) The physical properties of the plastic material used for the casing shall not affect or conflict with the physical properties of the PE pipe.
 - c) The plastic casing for the PE pipe (main or service) installed above ground level shall comply with G.O. 112-E, Reference 49 CFR, Section 192.323 requirements.
 - d) The PE pipe must not touch the wall of the casing. Provisions must be made to ensure that an annular space of at least 1/3 inch is maintained at all times.
 - e) Joints made on the above ground level PE pipe shall be fusion type joints.
 - f) Gas operators shall monitor, at location, temperature levels on the PE pipe during the colder and warmer months of the year for at least three years, and shall leak survey the PE pipe installed above ground level at least twice a year.

- g) Gas operators shall report to the Commission any construction, operation or maintenance problems related to the above ground level PB pipe across bridges.
2. The gas operators in California must also seek waiver from DOT under Section 190.339 or applicable code section of 49-CFR
3. Gas operators shall report to the Commission any further studies (performed by a manufacturer, association, institute or any other accredited company), whether supportive or not, on the installation of PB pipe above ground level.
4. This Resolution is effective today.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on June 4, 1998. The following Commissioners approved it:



WESLEY M. FRANKLIN
Executive Director

RICHARD A. BILAS
President
P. GREGORY CONLON
JESSIE J. KNIGHT, JR.
HENRY M. DUQUE
JOSIAH L. NEEPER
Commissioners