
**DEPARTMENT OF
TRANSPORTATION**

Office of Pipeline Safety

[Waiver 5; Docket No. OPS-16]

**NEW ORLEANS PUBLIC
SERVICE, INC.**

Partial Grant of Waiver

New Orleans Public Service, Inc. (NOPSI), has petitioned for a waiver of §192.455(a) of the Federal safety standards for the transportation of gas. Section 192.455(a) requires a buried or submerged pipeline installed after July 31, 1971, to have an external protective coating that meets the requirements of §192.461 and to have a cathodic protection system in full operation within 1 year of installation of the pipeline.

A notice of hearing was issued (36 F.R. 1072, January 22, 1972) and a public hearing was held on February 24, 1972, at which NOPSI presented considerable testimony in support of its petition. A transcript of that hearing is in the public docket on this petition.

NOPSI desires to install the following types of pipelines using a concrete protective coating without cathodic protection:

- (1) New steel service lines connected to existing bare cast iron mains; and
- (2) Short sections of steel replacement pipe in existing cast iron mains.

A concrete protective coating does not meet the requirements of §192.461 because it does not have high electrical resistance and low moisture absorption as required by §192.461(b).

The justification for the proposed waiver is set forth in the notice of hearing and the transcript of the hearing referred to above. NOPSI contends that its proposed method of corrosion protection is as satisfactory as that required by §192.455(a). This contention is based on the passivation effect of cement on the steel pipe and on a study of the petitioner's leak history on concrete-coated pipe.

Although a concrete protective coating may be a relatively effective coating, notwithstanding that it does not comply with §192.461, NOPSI has not shown that it can be used without

supplemental cathodic protection. If the concrete coating becomes chipped or cracked so as to expose a portion of the steel pipe to the soil, there is a much greater likelihood of serious galvanic corrosion on concrete-coated pipe than on pipe with a bituminous coating. For this reason, concrete-coated steel pipe may have a greater need for cathodic protection than steel pipe with a more conventional coating. Thus the use of a concrete protective coating without cathodic protection cannot be found to be "not inconsistent with pipeline safety" as required under section 3(e) of the Natural Gas Pipeline Safety Act.

However, it does appear that, when used in conjunction with cathodic protection, concrete coating is as effective in controlling corrosion as other protective coatings which meet the requirements of Subpart I. This is due to the ease with which concrete-coated steel polarizes to the open circuit potential of any galvanic cell in the range of from about -1.1 volts to about +0.6 volt as measured to a copper-copper sulfate reference electrode. Differences in galvanic potentials due to soil conditions (other than stray currents) are unlikely to exceed this potential range. Cathodic protection will control corrosion of the pipe at locations where the steel pipe is exposed to the soil because of damage to the concrete coating.

In consideration of the foregoing, it is found that the use of a concrete protective coating in conjunction with cathodic protection is not inconsistent with pipeline safety. Therefore, New Orleans Public Service, Inc., is hereby granted a waiver of §§192.455(a)(1) and 192.461 to the extent necessary to permit the use of concrete coating with a minimum thickness of three-quarters of an inch on the following pipe:

- (1) Short isolated sections of steel mains.
- (2) Screw coupled steel service lines from cast iron mains. However, the concrete-coated pipe must be cathodically protected. To the extent that NOPSI petitioned for a waiver from the cathodic protection requirements of §192.455(a)(2), that petition is denied.

This waiver is effective until September 1, 1975, unless sooner suspended or revoked.

Issued in Washington, D.C., on August 22, 1972.

JOSEPH C. CALDWELL,
Director,
Office of Pipeline Safety.

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