



# STANDARD CONSTRUCTION OPERATING PROCEDURE

NEW YORK CITY DEPARTMENT OF  
**DESIGN + CONSTRUCTION**  
Division of Infrastructure  
Bureau of Construction

SCOP..... : 07- 004W

CATEGORY.. : CONSTRUCTION  
Subcategory : WATER MAINS

**SUBJECT: REMEDIATION OF STEEL PIPE WITH  
HAZARDOUS COATING MATERIAL**

Keywords ..... : Steel Pipes, Trunk Main  
Coatings

APPROVED:

**ORIGINAL SIGNED BY**

*Chief Construction Engineer - William Svilar, P.E.*

Supersedes..... : N/A  
Supplements..... : N/A  
Sheet..... : 1 of 1

Issue Date..... : July 10, 2007

The following Hazardous materials (in bold and underlined) are likely to be encountered when existing steel pipe trunk water mains are replaced, cut, modified or connected to. If encountered in higher than the acceptable concentration, the coating must be removed in accordance to the procedures as outlined below:

### Background:

In order to prevent corrosion, steel pipe fabricated between 1890 and 1930 was dipped in hot coal tar enamel to provide the pipe with an external coating and internal lining. **Polychlorinated biphenyls (PCBs)** are natural byproduct of coal tar manufacturing. Depending on the coal source and refining process, coal tar enamels can have PCB concentration ranging from non-detectable to over 1200 PPM. The Toxic Substance Control Act (TSCA), enacted in 1976, banned the manufacture of PCBs after 1978. Non-liquid PCB remediation wastes with concentrations greater than 50 PPM, must be disposed of in accordance to TSCA regulations. Wastes with concentrations less than 50 PPM must be disposed of in a responsible manner in accordance with federal, state and local regulations

During the 1930's, the external coal tar enamel coating was reinforced with felt wrap that was saturated with mineral fillers known as **asbestos**. The City adopted this practice after 1940 and used the felt wrap saturated with asbestos into the 1980's. The City would formally adopt the use of felt wrap saturated with fiberglass in its steel pipe specification revision of 1990.

### Procedure for Evaluation of Existing Coal Tar Coating of Steel Pipes:

The evaluation process begins with determining the age and pipe material of the existing trunk water main. As-built and/or Record drawings, field cards detailed distribution maps (DDMs) typically provide installation dates. Using the installation date and the background information above will help determine the kind of coating that was used. The next step is to collect a sample of the coating and have it analyzed.

Coating samples can be collected by the contractor while digging test pits to prepare pipeline geometry drawings. Coating sample can also be collected from the pipe found in access manhole structures and main line valve chambers. DDC's Technical Support Unit can be utilized to collect and test coating samples under their requirements service contract provided that the testpits and samples collection activities are coordinated. Once the sampling and testing is completed, the need and extent of the remedial work can be more accurately determined and a change order can be prepared, if required, to address it.

### Description of Remedial Work:

In most instances the contractor will obtain the services of a subcontractor that performs such work. The subcontractor will have to acquire an asbestos abatement permit from DEP's Hazardous Material Unit and can utilize DDC's Hazardous Material Section to expedite the process.

The work requires trained personnel, protective gear, air-monitoring and the erection of a containment area around the work location. Air monitoring can be performed by DDC's Hazardous Material Section or by a private lab. A variance can be granted to the utility operators and their experienced contractors that eliminates air monitoring and relaxes the containment area requirements as the asbestos is encapsulated in the coal tar enamel.

The designated area is then stripped of coating by the technician wearing the appropriate safety gear. The cut coating edge are sealed, the scrapings are collected and bagged along with the plastic sheets placed to catch pieces of the coating. The pipe section is then cut. Discarded pipe is then placed in containers, manifested and shipped to an appropriate facility for disposal along with the bagged debris.