

# TECH TIPS

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## HEAVY CLEANING – WHAT DOES IT REALLY MEAN?

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The definition of “light” and “heavy” cleaning varies greatly between municipalities. As a result, NASSCO's Industry Standards Committee has been working on the development of pipeline cleaning standards to help clarify this issue. This Tech Tip takes the first step to provide some topline differentiators.

A cleaned pipe must meet the visibility standards of the Pipeline Assessment Certification Program (PACP) and allow an unobstructed view of the entire pipe. Pipeline cleaning can be divided into several logical categories, based on the pipe size and the type and amount of debris in the pipeline.



### Pipeline size categories:

- Small Diameter pipelines up to 30” in diameter
- Large diameter pipelines greater than 30” in diameter

### Pipeline cleaning categories:

- Small Diameter Light Cleaning
- Small Diameter Heavy Cleaning
- Large Diameter Light cleaning
- Large Diameter Heavy Cleaning
- Specialty Cleaning

### Definitions for Pipeline cleaning:

In all pipelines, the types of cleaning can be identified using NASSCO PACP Operation & Maintenance (O&M) codes.

- Light cleaning - Deposits (D) of up to 25%, except Attached Encrusted (DAE) or Hard Compacted (DSC) deposits.
- Heavy cleaning - Obstructions (O) and Deposits (D) over 25%.
- Specialty cleaning - Pipe segments with Attached Encrusted (DAE) or Hard/Compacted (DSC) Deposits, root removal, intruding tap removal, and removing obstructions foreign to the collection system.
- Large diameter cleaning - Trunk sewers and interceptors

**LIGHT CLEANING** will typically provide a pipe which will meet NASSCO PACP standards. It is normally defined as 1 to 3 passes with a nozzle which is appropriately rated for the jetter pump.

**HEAVY CLEANING** requires a step cleaning approach usually by accessing the downstream manhole and cleaning from downstream to upstream. Step cleaning is a systematic and efficient method of cleaning pipe with medium to large amounts of debris. Small sections or lengths of the sewer segment (steps or passes) are cleaned in each pull of the cleaning nozzle. This prevents buildup of debris downstream in the pipe and at the manhole. This also prevents the nozzle from becoming stuck in a large build-up of debris.

It is common practice to follow the cleaning nozzle with visual inspection from upstream to downstream to verify that the cleaning process is effective and that the pipe is cleaned per NASSCO standards for accurate PACP coding. However, at times it may be necessary to clean a pipe from the upstream manhole to the downstream manhole (reverse set-

up). The reasoning for a reverse set-up is based on the conditions, the access/location and the amount and type of debris in the pipe. Heavy cleaning may require specialized nozzles depending on the amount of debris, the type of deposit, the type of debris or obstruction and the debris location.

**SPECIALTY CLEANING** is typically required when there are attached roots, encrusted deposits, tap removal and for removing items foreign to a collection system but present in the pipeline segment being cleaned. There is a variety of cleaning and specialty tools available to address these needs for specialized cleaning, and NASSCO's “Jetter Manual of Practice” is a guide for the effective cleaning of a sewer. In large diameter pipelines, manned entry may be required to remove debris and items foreign to the collection system. Small diameter pipeline cleaning can usually be accomplished with a combination vacuum and jetting truck specially designed for use in a sewer system.

**LARGE DIAMETER CLEANING** refers to cleaning the trunk sewers and interceptors which are the backbone of the collection system. They usually have been the least maintained and evaluated part of the system since installation. If they no longer function or fail, large costs and high profile repairs may be required. Interceptors and trunk sewers were originally designed to scour or self-clean. In some cases, depending on the velocity of flow, this was the only method for cleaning. This method, however, does not address the condition assessment aspect of the pipeline.

Based on the pipeline sizes, its location and the volume of debris that can accumulate, these pipelines can present a challenge to evaluate and clean. Typically the amount of debris removed is measured by the TON. There are numerous technologies available for cleaning large diameter pipelines. They include vacuum systems, pumping systems and mechanical systems. Several companies specialize in cleaning large diameter pipelines and can offer assistance. Cleaning specification guidelines may be found at [nassco.org](http://nassco.org).

The key to cleaning any pipeline system is to evaluate the system to understand what is present, where it is, and to choose the right technology for the cleaning process that applies.

**For more information please visit [nassco.org](http://nassco.org)**