

**Distribution System Improvement Charge
NAWC-NJ Proposed Foundational Filing
Outline of Filing Content**

1. **Foundational Filing:** A foundational filing would be made with the Board in the context of either a base rate proceeding or as a stand-alone filing. Copies of the foundational filing would be provided to the Board's Water Division Staff, Office of the Attorney General and the Division of Rate Counsel. The intent of the foundational filing would be to provide the Board and Rate Counsel with a transparent view of the types of investments to be made under a DSIC; the opportunity to discuss such; the support for the sound planning and engineering process utilized; and the decision criteria used to prioritize each type of project. _

The filing would include the following information:

a. **Eligible Plant:** The filing would identify categories of plant eligible for inclusion in a DSIC mechanism. DSIC eligibility would be based on criteria laid out in the regulations to be promulgated by the Board. The following is a list of plant typically considered DSIC eligible under infrastructure programs in place in other states:

- Main replacements and rehabilitations
- Main cleaning and lining
- Valve replacements
- Hydrant replacements
- Replacement meters
- Replacement services (service lines from main to customer service line)
- Tie in of dead end mains
- Unreimbursed improvements due to highway relocations
- Surge protection and surge tanks
- Zonal metering and leak detection facilities.

DSIC eligible plant investment should primarily address one of the following infrastructure issues/opportunities:

i. **Unaccounted for Water:** In certain company service areas, mains, services and hydrants found to be leaking through leak surveys and main break history should be investigated when service area leakage is trending to, or greater than, that permitted by the NJDEP (i.e., in excess of 15% under N.J.A.C. 7:19-6.4). Some water main joints may be able to be rehabilitated while many water mains and services would need to be replaced. Based on sound engineering analysis, the new water mains, services and hydrants should be properly sized

and, where appropriate, include cathodic protection against future galvanic corrosion.

ii. **Undersized Pipe:** The undersized pipe existing in water systems affects available fire flows and is more susceptible to leakage and main breaks. Undersized pipe (generally 4” or less) will be identified and targeted for replacement. Also, larger sizes of pipe that create hydraulic bottlenecks would be candidates for replacement. The new main should conform, where possible, to the AWWA M-31 manual.

iii. **Unreimbursed County and Township Relocation Projects:** Counties and Towns vary widely on the notice provided regarding when and how utility infrastructure needs to be relocated to facilitate other improvements. Coordinating infrastructure repair/replacement programs with governmental bodies will result in lower project costs, and these opportunities should be capitalized upon when they are presented. These specific projects may not be known at the time of the foundational filing, but applicants can generally provide year-to-year data in this category.

iv. **Meter/Services/Hydrant Renewals:** Existing Board regulations define the rate at which water meters must be tested and evaluated. Water services are a constant source of water leakage and require continuous investment. Hydrant maintenance is also continuous. These assets, depending on the specific circumstances, often need to be replaced and would be a component of the DSIC renewal or replacement programs.

v. **Capitalized Main Breaks:** Main breaks provide an opportunity to record and document the condition of the pipe and to perform sound engineering analysis, as the company determines to be appropriate, as to the structural integrity and the nature of the pipe failure.

vi. **Water Main Reinforcement:** Certain sections of most water systems contain dead ends that can be “looped” or connected together. “Looped” sections of water mains provide more reliable operations, improved water quality and can increase available fire flow. Dead end sections flow in only one direction and are therefore subject to water quality complaints from stagnant water and have a higher risk from service outages and may provide substandard fire flow. Therefore, dead end water mains should be reinforced based on the number of water quality complaints and the level of fire protection provided.

vii. **Rehabilitation of Structurally Sound Water Mains:** The AWWA M-28 Manual provides an independent matrix to guide the decision process as to which mains should be replaced and which should be rehabilitated. The decision matrix provides guidance based on specific categories of projects including structural problems, poor water quality, poor flow/pressure. For example: unlined cast iron and unlined ductile iron water mains can have a history of

discolored water complaints but no history of water main breaks or evidence of water leakage. These pipes may be candidates for cleaning and lining, and once cleaned and lined, can provide sufficient fire flow and no more discoloration. Valves, hydrants and services can also be replaced during these projects. Some of the oldest parts of the water infrastructure fit into this category, and should be strong candidates for cleaning and lining.

However, it is important to recognize that, in some situations, the economics of cleaning and lining may limit the viability of that option. For instance, if a town is planning to pave a street with a structurally sound water main from 1890, the replacement cost may be equal to the cleaning and lining cost. Similarly, because temporary above ground piping must be installed to implement this technology, cleaning and lining one individual street at a time is not cost effective, whereas, cleaning and lining multiple blocks and neighborhoods can be cost effective. When cleaning and lining multiple streets or neighborhoods, individual pipe sections with structural deficiencies or inferior material should be replaced in an effort to renew the entire neighborhood and not cause additional breaks. For example, asbestos cement, galvanized and lead piping are now regarded as inferior materials, can not be cleaned and lined and should be candidates for replacement. For the reasons stated above, in certain cases, replacement would be preferable and the investment appropriate for inclusion in the DSIC.

viii. **Replacement or Structural Rehabilitation of Structurally Deficient Water Main:** Consistent with the AWWA M-28 Manual analytical matrix, water mains with some history of main breaks, including any rising trends in main breaks, or evidence of water leakage, or other structural issues, would be candidates for replacement or fully structural relining technology. Some water mains that are only 50-75 years old show evidence of structural deficiency (e.g., clustering of main breaks in a geographic area (“needle mapping”)), or that have high break rates for specific vintages of pipe, would be good candidates for replacement, including cathodic protection where needed on the new infrastructure. Type of pipe, date installed and other engineering analysis can provide categories of pipe potentially in need of replacement. New trenchless technologies for fully structural linings continue to evolve. These rehabilitation methods should be considered where cost effective and flow capacity design criteria can be achieved. Similar to cleaning and lining, these projects would include replacement of valves, hydrants, services and various pipe bends that can not be lined.

ix. **Surge protection and surge tanks:** Where engineering analysis determines that pressure surges are contributing to main breaks, the installation of surge protection, surge valves or surge tanks should be included in DSIC recovery.

x. **Zonal metering and leak detection facilities:** In areas of high unaccounted for water, additional zonal metering and leak detection facilities to analyze and locate leakage sources, as well as meter replacement, should be included in DSIC recovery. .

b. **Infrastructure Goals and Priorities:** Foundational filings would include a discussion of the applicant's long-term capital investment strategy for the DSIC asset categories as well as an explanation of the analytical tools/processes used by the applicant to identify capital investments. The foundational filing will describe the justification for the project types and whether replacement or rehabilitation will be utilized. Each company will also provide the industry accepted type of material for the asset to be rehabilitated or replaced. Candidate mains meeting the criteria in M-31 may be substituted when road reconstruction necessitates a change in scheduling or when problematic service issues arise.

c. **Anticipated Base Rate Filing:** The next anticipated base rate filing would likely be the foundational filing for the next DSIC cycle.

d. **Costs:** The investments made in the above categories of DSIC-eligible infrastructure would not exceed the DSIC cap that would be established in rules to be promulgated by the Board. For discussion purposes we have been using 5% as the cap. .

2. **Informational Briefings:** Within thirty days of submitting the foundational filing, the applicant would conduct informational briefings with the Board Staff and Rate Counsel to discuss the foundational filing, the specific DSIC plant types included and the planning and prioritization utilized. Board Staff and Rate Counsel would always have the ability to request additional information regarding the information included in the foundational filing. Such information requests, however, would not alter the schedule upon which investments would be made and placed into service, and thus would be includable in the DSIC process. The first quarterly DSIC increase would take place no more than three (3) months after the informational briefing.

3. **DSIC Implementation and Reporting:** Upon the investment in, completion of, and placing into service of, DSIC-eligible infrastructure, the applicant would be authorized to include in its regular tariff charges a DSIC charge. The tariff would be modeled after tariffs in place in Pennsylvania and Delaware (see copies at Exhibit D.) DSIC charges would be revised quarterly to reflect additional DSIC-eligible plant that has been placed into service. On a quarterly basis, the applicant would file with the Board and Rate Counsel a rolling, updated DSIC period report indicating the status and cost of all DSIC eligible infrastructure investments consistent with its foundational filing.