

Virginia Tech Predictability and Preventability Index for Pipeline VT-PPIP

ABSTRACT:

The Predictability and Preventability Index for Pipeline (PPIP) will help utilities predict a probable failure and take steps to prevent it. This research presents the development of Predictability Index for PCCP as a tool to help identify the pipes prone to risk and indicate the level of risk associated with each pipe. This Index is developed by understanding the various failure modes and mechanism of PCCP pipes (manufacturing, installation, operation, others). In addition, the research also presents development of Preventability Index for PCCP pipes providing the utilities with a guideline on the technologies and/or methodologies they could employ to identify the distress indicators their pipelines are prone to. This Index is developed by evaluating the various state-of-the-art technologies and considering the emerging technologies. The proposed Predictability (Pred) and Preventability (Prev) Indices are evaluated and validated with the data and information collected from the Washington Suburban Sanitary Commission (WSSC), Laurel, Maryland. The proposed indices will help utilities predict and prevent PCCP pipe failures.

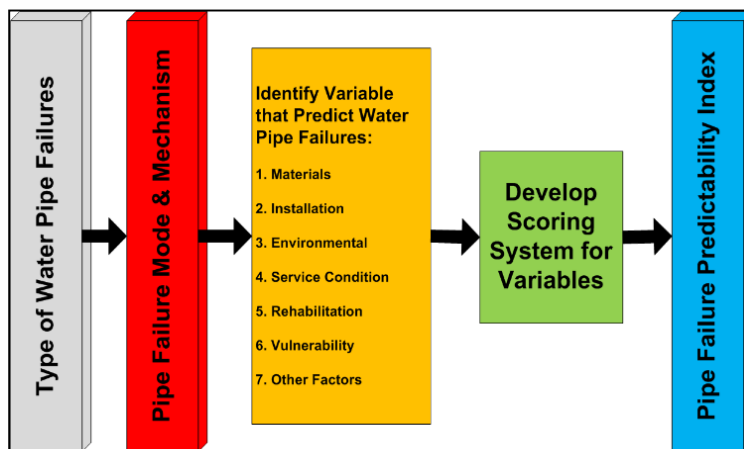


Figure 1: Predictability Index

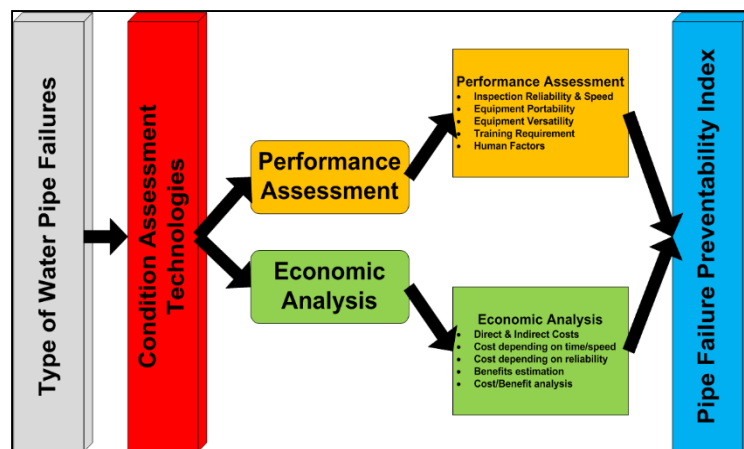


Figure 2: Preventability Index

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