

ASK THE TAC



Ask the TAC covers technical questions submitted to NASSCO's Technical Advisory Council. The TAC is comprised of five industry leaders, all representing different backgrounds and areas of expertise. If you have a technical question you would like to submit, please email TAC@nassco.org.



Our municipality has all our pipe data in WRC format with 1-5 rating, but we have recently been getting PACP™ format reports in our last few inspections. Do you have any recommendations on what data from the PACP data we should use to come to a reasonable rating to WRC coding?



You have a specific question that has a short answer and, regrettably, also a longer one with explanation. The short answer is yes, one can use certified software Segment Grade Scores and related outputs to align the two systems for decision making. If you choose this route, then consider utilizing PACP-certified staff with experience working with both systems to provide analysis and opinion that aligns with your organization's operational goals for making informed maintenance and capital planning decisions. NASSCO has no formal guidance on what codes or grades to use for this assessment.

NOW, THE LONG ANSWER.

PACP codes adopted in 2002 for North America were based on a system developed by the Water Research Centre (WRC) in 1980 as the Manual of Sewer Condition Classification (MSCC). The inaugural PACP Version was similar to MSCC Version 4.0. Understanding that the coding and grading systems are similar is critical to developing a workable solution, as there are notable differences that include changes in names of similar observations; added codes to quantify rehabilitated/renewed pipes, point repairs, and corrosion deterioration mechanisms; and inclusion of observations that were previously noted in the Remarks field.

Prior to 2002, MSCC was adopted by a number of North American users for benchmarking the condition of their gravity linear assets. Over the past 18 years, PACP has continued to modify its codes and grades to meet the needs of the North American market. An example of this adaptation was the introduction of Version 7 in May 2015. The revision included modifications to some grades, removal of Buckling codes, addition of Deformed Flexible and Deformed Brick codes, and modifications to specific code Descriptors and Modifiers. We now have over 220 code options to quantify an observation. With the development of Version 8 anticipated in 2023, the evolution will continue with code modifications that reflect the needs of users.

As PACP Group codes share the same fundamental engineering basis and 1 to 5 grade severity with WRC's root codes, the database conversion between coding systems is possible for most practical engineering and asset management applications. As these are not identical coding systems, any conversion requires the application of sound engineering judgement. Therefore, full conversion from these systems, and from earlier versions of PACP to Version 7, requires the development of a strategy for mapping codes and a utility to ensure that data conversion is both feasible and appropriate for the intended end use of the data. This is the recommended long-term solution for converting from one observation base to another. We acknowledge that this solution may require an investment that may involve a paid third party to develop the conversion strategy that includes Quality Assurance protocols to support trust in data integrity and meet your end use goals.