

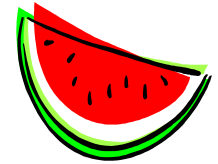
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Where do the PACP codes come from?



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While NASSCO's Pipeline Assessment and Certification Program (PACP©) is still relatively new, the roots of the PACP© coding go back many years. A review of the history of sewer defect coding will help to put the development of PACP© in proper perspective.

The Water Research Centre (WRc) method of sewer defect coding began in 1978 with what is called the "embryonic" defect codes developed in the UK. The codes consisted of 7 structural codes, 7 O&M codes, 2 construction feature codes, and 5 miscellaneous codes for a total of 21 codes. Many of the original codes are still in use today.

The codes were supplemented by adding descriptors (crack longitudinal) and modifiers (crack longitudinal 3 o'clock). A type of shorthand was developed to log the codes, descriptors, and modifiers. For example **FCJ02040710 IJR**, was shorthand for "*Pipe fractured around joint from 2 o'clock to 4 o'clock and from 7 o'clock to 10 o'clock with running infiltration through fractures*".

The codes and the documentation were further improved in the Man-

ual of Sewer Condition Coding 1st Edition (MSCC1), published in 1980, and the MSCC2 published in 1988.

The success of the WRc coding system attracted interest from other countries. The Australian Conduit Condition Evaluation Manual first developed in 1991 was based in the WRc codes. Sewer condition assessment is now mandated in Australia and New Zealand and both are based on the WRc system, with modifications to better meet their regional requirements.

After the release of MSCC 3rd Edition in 1993, the need for standardized sewer condition assessment was recognized in Europe, and work began on what would be known as EN13508: Part 2, or the "Euro Code".

While work was progressing on the Euro Code, based on MSCC 3rd Edition, NASSCO obtained the assistance of WRc in 2001 to develop a standard for the United States, now known as PACP©. WRc implemented many of the improvements planned for the Euro Code and for the upcoming MSCC 4th Edition into PACP©. So PACP© was the first sewer condi-

tion assessment coding standard to include many of the enhancements now in MSCC 4th Edition and EN13508: Part 2. Interestingly, the MSCC 4th Edition is more similar to PACP© than to MSCC 3rd Edition.

The standardization of sewer condition assessment around the world in only a few years has been remarkable. While there will perhaps always be some minor differences among countries and continents (sanitary sewers vs. foul sewers), the commonality among all the coding systems is extensive. By speaking the same coding language we all have the ability to exchange information and improve our abilities to conduct long term and short term asset management.

"The universal copyright for all codes in the MSCC's reside with WRc, but NASSCO has North American exclusivity in regards to PACP©. Worldwide, regions are rapidly adopting standardized codes based on PACPv/MSCC4, with Malaysia, Singapore, Indonesia, Thailand, Philippines, Brunei, Cambodia, Vietnam, Laos and Burma all due to commence their own programs from 5 July 2004."