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Study Sheds Light On Mud Disposal

NA Pipeline Outlook

Wall Thickness For Manhole Coatings

UCTA Forms South Texas Chapter

BAMI-I: International Impact

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Sprint Pipeline Services personnel consult as they prepare to lower in a section of 20-inch pipe during construction on the BridgeTex Pipeline Project near Houston. The equipment pictured is a Midwestern M572CH sideboom attachment on a Caterpillar D6T LGP crawler dozer.

NASSCO STANDARD ★ BEARERS

Jim Raulston

EDITOR'S NOTE:

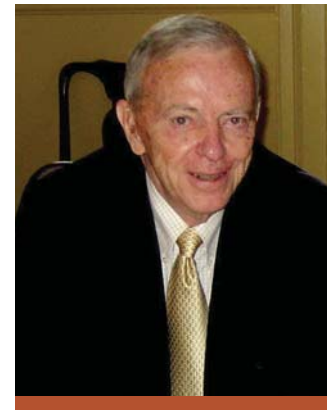
In 2016, NASSCO will celebrate its 40th year of setting standards for the assessment and rehabilitation of underground infrastructure. As we look forward, we also look back to those who have made significant contributions and have impacted the continued acceptance and use of trenchless technologies.

This installment in the series features James (Jim) Raulston. He has trained 700 people in PACP and has served as a member of the International Pipe Bursting Association (IPBA), a division of NASSCO. He has also served on NASSCO's Manhole Rehabilitation Committee. We are grateful for his many contributions to help NASSCO set standards for the assessment and rehabilitation of underground pipelines and to ensure the continued acceptance and growth of trenchless technologies.

This is the fifth installment in a series of articles exploring the history of NASSCO through the eyes of industry leaders.

I was born in east Tennessee, raised in middle Tennessee, and in 1947 entered Auburn University as a Naval ROTC cadet. At Auburn, I earned degrees in building technology and civil engineering and upon graduation in 1951, received a Naval Commission and orders to three years of active duty during the Korean War. After completing military service, I worked in housing development projects for a couple of years until an overseas job opportunity presented itself. The first overseas assignment was with an American joint venture group building military installations in Pakistan. This was during the early years of the Cold War. Through the Southeast Asia Treaty Organization, several Western governments – led by the U.S. – had committed to upgrade and develop military installations in friendly nations around the periphery of Soviet influence – just in case they were later needed. This was great experience for a young man serving as a project engineer and later, as project manager on three air base projects and a tank training facility.

After completing the Pakistan contract in 1959, my next stop was Liberia, West Africa, where I worked with an American contractor and Swedish engineers. The richest iron ore deposit in the world had been discovered in the Nimba mountain range along the Guinea border and our group had contracted to build a deep-water harbor on the coast, and both a railroad and highway to the base of those mountains 150 miles inland. This contract, when awarded in 1959, was the largest non-government contract in the world and I worked as chief cost engineer, reporting to the home office of Raymond International in New York City. This project was somewhere near the end of the world where, when you bent a nail, it was cheaper to straighten it than replace it with a new one.



For me, asset management brings it all together since it poses the questions: What do we have? Where is it located? What is its condition? And what are we going to do about it?

In 1961, I returned to the United States, joined the staff of a utility construction contractor and became a corporate officer and project manager for the firm, specializing in construction of sewer, water and natural gas systems. In the early 1970s, after following this line [of work] for approximately 15 years, I first became aware of the Environmental Protection Agency's work under the newly-passed Clean Water Act. Many of my peers had become active in EPA projects funded by the government Construction Grants Program, and I developed a special interest in the Sewer System Evaluation Survey efforts that were the foundation of the program at that time. Having built hundreds of miles of wastewater collection systems, I suppose it was only natural to find interest in what had happened to those pipelines with passing time, and here was the opportunity to learn first-hand.

I became fascinated by this new industry because of my construction involvement when the lines were first constructed, and now had an opportunity to observe and evaluate conditions that developed in those years following original installation. From that very early beginning, I've been involved in nearly every aspect of the wastewater collection industry including condition assessment, repair, restoration and funding. In the early 'rehab days,' a partner and I had one of the first Insituform licenses in the country and since that time, there's been opportunity to work with the flood of new technologies developed in the industry.

Long journey, short time

Our industry has come a very long way in a relatively short span of years. For example, back in the 1970s when we first began using CCTV in sewer line inspection, the equipment was primitive and we had to develop 'methodologies' as we worked since there were no standards. Today we have the benefit of advanced technologies including sonar, radar and GIS systems for mapping and more.

For more than 25 years, a large part of my efforts have focused on development of software to support sewer line-related activities and, in more recent times, the concept of 'asset management.' For me, asset management brings it all together since it poses the questions: What do we have? Where is it located? What is its condition? And what are we going to do about it? After spending decades seeking answers to these questions, the asset management concept finally provides both vehicle and opportunity to encapsulate both the questions and answers into something that makes sense.

A particularly notable advancement is NASSCO's PACP [Pipeline Assessment Certification Program]. Rod Thornhill led a NASSCO development committee that made one of the industry's truly great contributions when, in 2001, they presented NASSCO

with a CCTV coding system that has become the standard of the industry. For more than 30 years, recording CCTV inspection observations had been a 'personal' experience since there were no general standards. In those pre-PACP days, we struggled with homemade forms, check boxes, written descriptions and all sorts of data manipulation to meet in-house needs. Although there was widespread agreement that we needed a 'standard,' pre-Thornhill efforts had failed. I was an excited member of the first PACP trainer class in the spring of 2002.

PACP changed the CCTV industry by providing universal standards. Since the introduction of PACP, 18,000 individuals have been PACP-trained, absolutely revolutionizing TV inspection in North America. Now PACP, as well as MACP [Manhole Assessment Certification Program] and LACP [Lateral Assessment Certification Program], are accepted national standards. Many companies now develop software to support these certification programs and, in fact, build their software systems around them. Thankfully, PACP has been accepted across the board, with the exception of a few hold-outs such as large engineering firms and cities that believe they have better mouse traps. And if they do, I certainly applaud them! But for 98 percent of the trenchless professionals in the United States, PACP standards work for the best interests of the industry because they get everybody on the same page.

Small systems benefits

My greatest wish for the future is to see PACP and asset management standards applied in a manner that realistically and economically serve the needs of small utility managers as they struggle to address their physical and regulatory problems. Small systems are generally burdened with the same regulations as larger systems but often lack the necessary funds and in-house resources needed to comply. As a result, these utility systems sometimes only have response capability to address emergency situations. Condition assessment, asset management planning and restoration efforts are too often cost-prohibitive, and data management is one of the biggest setbacks.

A couple of years ago AWWA [American Water Works Association] released a study revealing that more than 90 percent of U.S. water and wastewater systems serve fewer than 10,000 people. Those are small systems! Yet, they are being held to the same performance and regulatory standards as the larger cities. These small systems are often placed under Consent Decrees with exactly the same 'boiler-plate' requirements as larger metropolitan cities, and in many cases they just don't have the resources they need.

Together, we need to help the small systems by developing standardized approaches to asset management planning and implementation providing means that help them comply. One possible tool may be found in the relatively new 'cloud' technology. Through this technology, a service could be devised to provide cloud-based storage and management of condition assessment and asset management planning data – using cloud-based software and analysis tools to view, copy, and print custom reports – all through a small computer located anywhere there's an internet connection. Such a system would provide the capability of sophisticated in-house systems but without heavy investment in hardware, software and personnel to manage them, and that's a 'win-win' for everyone.

If we can provide something like this, we will have accomplished an awful lot for the small system owners – and we'll all benefit from it. ◆