

## From the Desk of Vice Chairman, ISTT



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In July 1855, the eminent physicist Michael Faraday in a letter to the London 'Times' wrote "the condition in which I saw the Thames may, perhaps, be considered as exceptional but it ought to be an impossible state, instead of which, I fear, it is rapidly becoming the general condition. If we neglect this subject, we cannot expect to do so with impunity, nor ought we be surprised if, ere many years are over, a hot season gives us sad proof of the folly of our carelessness".

150 years later and Faraday could have been a concerned citizen of Delhi writing to the Times of India about the state of the Yamuna. Faraday did not have long to wait before his prophetic words became reality, in the long hot summer of 1858 Benjamin Disraeli was seen flying from the Chamber of the House of Commons, handkerchief clasped to his nose crying loudly about the 'Stygian Pool' the Thames River had become and soon Disraeli's Metropolis Management Amendment Act enabled Bazalgette to commence work on a grand scheme to construct interceptor and feeder sewers and drain London to the river downstream. The Metropolis Act required that the Metropolitan Board of Works shall make sewers and works for preventing *all or any part of the sewage of the Metropolis from flowing or passing into the Thames in or near the Metropolis*. In ten years Joseph Bazalgette had constructed 165 miles of trunk sewer and 1100 miles of new local sewers at a cost of about £4Million (850 Crore Rs in today's money).

The parallels between 19<sup>th</sup> C London and the New Delhi of today go on and on - the politicians of both

era's struggled to cope with defunct infrastructure against a background of intense urbanization, London's population quadrupled in the first 50 years of the 19<sup>th</sup>C. The pressures on modern day Delhi are even more extreme and we need politicians of the caliber of Disraeli to seize the initiative and drive forward investment in infrastructure to restore the utility networks and provide water and wastewater to serve the citizenry. There is a glimmer of hope at hand the Yamuna Action Plan (Phase II) is about to commence with the restoration of the Ring Road Sewer and construction of new sewers at Bela Road and along the busy Wazirabad Road gateway from the North and East of the City. The Japan Bank for International Cooperation funded scheme will also augment capacity of the Sewage Treatment Plants at Okhla and Keshopur. The Delhi Jal Board has additional plans to upgrade and restore its trunk sewer network and has earmarked funds to attend to the first 48kms under its Trunk Sewer Improvement Project.

These grand and worthy schemes will require more than political will and generous funding. The investment in training of municipal engineering and contractor resources will be substantial and require major shifts in working practice and bureaucracy to support the initiative. The pump can be primed by appointment of skilled international consultants to design, specify and initially implement the programmes but the major burden will fall on domestic resources and these scarce talents will be subject to intense competition from other competing infrastructure needs. Training is the key and the

payback comes in the creation of durable infrastructure and the potential to export skills to the other cities of India and the surrounding SAARC countries with similar needs. The Executive Development Programme of IndSTT is a laudable contribution to filling the needs gap but so much more is required at all levels within the industry.

Trenchless Technology has a major role to play in the construction of new infrastructure and the restoration of old and will feature in both the YAP II and the Trunk Sewer Improvement Projects. The development of technical, professional and managerial skills in these technologies will be a huge challenge on all sides of the industry and lessons should be drawn from the experience of other overseas countries and their emerging programmes to short circuit the learning curve. Singapore acquired such skills for the engineering staffs of its Public Utilities Board in the early 1990's through overseas training with agencies such as WRc and judicious use of consultants and has shown it can scope and manage its own infrastructure development programmes with commendable professionalism. Moreover Singapore has over the past ten years released public works on such a scale that it has fostered home grown viable contractor skills and completed its programme of works at least cost to the taxpayer and with a minimum of negative impact on the environment.

Timely skills development is the major challenge everywhere the United Kingdom's Traffic Management Act now requires that contractors undertaking vital utility works in the highway must have properly trained supervisors and operatives. Section 50 of the Act supercedes Section 67 of the New Roads and Streetworks Act and imposes a statutory obligation on undertakers to provide details of staff training and certification. The Secretary of State has new powers to prescribe training qualifications and approve training bodies. UKSTT is working with the industry to provide assessment schedules for the established trenchless technologies and modules for supervisors and operatives are available from Water Training International. Shortage of suitable staff is a

real issue with major initiatives underway to simultaneously upgrade water, wastewater and gas pipeline networks. NASTT, ASCE and AWWA are amongst other leading organisations providing structured training programmes. Jason Consultants provides training courses in microtunnelling and pipeline renewal for ASCE, AWWA and the University of East London, courses are also delivered for commercial clients such as Towngas in Hong Kong.

Progress on the restoration of Delhi's sewer network will require state of the art technology, the best practitioners available from amongst the consulting and contracting fraternity and the utmost commitment from local stakeholders. Impetus was given to the initiatives by contributors to the National Rivers Conservation Directorate at its recently held Workshop on Dissemination of Trenchless Technology in India. Additional Secretary Dayal spoke with vigour, insight and enthusiasm for trenchless methods in the context of NRCD's vision for the Yamuna and other critical waterways. He was supported by Joint Secretary RK Vaisht who drew attention to the beneficial impact of new technologies such as Portland Cement in the historic development of London's sewer network by Bazalgette and welcomed overseas contributors to the event.

It was heartening to hear two senior Government spokesmen knowledgeable and enthusiastic about the potential for trenchless methods to contribute to the restoration of the Yamuna and improve the lot of so many of the citizens of Delhi. Let us hope that their confidence is justified and that our industry can respond to the challenge with the required step changes in practice and professionalism. Sir Joseph Bazalgette's awesome contribution to wastewater engineering is commemorated in a bust set into the wall of the Thames Embankment with the legend *Flumini Vincula Posuit* ('He placed chains on the River') A similar place in history must surely fall to the Jal Board engineers who successfully repeat the historic feats in New Delhi!