

## PREFACE

The first edition of this book was born out of the observation that the adaptation of the tried and true methods of control used in the manual design/drafting world was not keeping pace with the implementation of the new CAD technologies, with a resultant need for the creation of instructional material that could help fill the gap. While the reasons for this are debatable, the net outcome was that the efficiency and productivity gains new technology was expected to bring to the plant design and construction effort often fell short of the desired results. In our opinion this was largely attributable to a loss of mentorship and a shift toward a reliance on technology as a substitute for experience. While it was recognized that a book cannot replace a knowledgeable mentor, the goal of the first edition was to draw parallels between successful project outcomes and the capability of the piping leads to achieve this through project set-up and the development of procedures linked with the design tools.

This goal remains unchanged in this second edition and if anything has increased in need during the last several years. The drop in world oil and gas prices and subsequent cost cutting measures has seen a further loss of experienced personnel at the same time as there are advances in software to be tapped into. Software such as laser scanning for new design in existing areas and checking of construction accuracy, and automated pipe routing for front end engineering and design (FEED), provide promise to a struggling industry ever eager for efficiency improvement solutions. Couple these with other software for such as client demands for plant lifecycle data management and emerging virtual reality, and the need for innovative and effective problem solving leadership capable of understanding and overcoming the challenges of new software implementation is on the increase. Attainment of the key leaders with these capabilities will be achieved by drawing from the ranks of knowledgeable designers who have gained the wherewithal to recognize and create balanced practical approaches to managing design utilizing the new technologies. Because defining a balanced practical approach is nebulous, requiring of analysis and judgement calls, knowledge and experience play a major role. Without these we will never be able to realize the true efficiencies and optimal performance possible from new technologies. All designers

therefore must strive to possess practical experience in design, construction, and CAD in order to work effectively in a lead decision making role. It is our hope that this book will assist you in your quest toward attaining effective piping leadership.

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