Fundamentals Of Pipeline Engineering

Industry expert John Kennedy details the oil and gas pipeline operation industry in this complete text. Contents: Pipeline industry overview Types of pipelines Pipe manufacture and coating Fundamentals of pipeline design Pumps and compressors Prime movers Construction practices and equipment Welding techniques and equipment Operation and control Metering and storage Maintenance and repair Inspection and rehabilitation Pipeline regulation Safety and environmental protection Tommorrow's technology. (Amazon)
Every production is built on the backbone of the pipeline. While a functional and flexible pipeline can’t assure a successful project, a weak pipeline can guarantee its demise. A solid pipeline produces a superior product in less time and with happier artists who can remain creative throughout the grueling production schedule. Walk through the foundational layers of the production pipeline, including IT infrastructure, software development practices and deployment policies, asset management, shot management, and rendering management. Production Pipeline Fundamentals for Film and Games will teach you how to direct limited resources to the right technological initiatives, getting the most for every dollar spent. Learn how to prepare for and manage all aspects of the pipeline with this entirely unique, one-of-a-kind guide. Expand your knowledge with real-world pipeline secrets handed to you by a stellar group of professionals from across the globe. Visit the companion website for even further resources on the pipeline.
Surface Production Operations: Facility Piping and Pipeline Systems, Volume III is a hands-on manual for applying mechanical and physical principles to all phases of facility

piping and pipeline system design, construction, and operation. For over twenty years this now classic series has taken the guesswork out of the design, selection, specification, installation, operation, testing, and trouble-shooting of surface production equipment. The third volume presents readers with a "hands-on" manual for applying mechanical and physical principles to all phases of facility piping and pipeline system design, construction, and operation. Packed with charts, tables, and diagrams, this authoritative book provides practicing engineer and senior field personnel with a quick but rigorous exposition of piping and pipeline theory, fundamentals, and application. Included is expert advice for determining phase states and their impact on the operating conditions of facility piping and pipeline systems; determining pressure drop and wall thickness; and optimizing line size for gas, liquid, and two-phase lines. Also included are a guide to applying international design codes and standards, and guidance on how to select the appropriate ANSI/API pressure-temperature ratings for pipe flanges, valves, and fittings. Covers new and existing piping systems including concepts for expansion, supports, manifolds, pigging, and insulation requirements Presents design principles for a pipeline pigging system Teaches how to detect, monitor, and control pipeline corrosion Reviews onshore and offshore safety and environmental practices Discusses how to evaluate mechanical integrity

Annotation This book presents the fundamentals of multiphase production with regard to flow simulations in multiphase pipelines, multiphase pumping and multiphase metering. It gives a large range of information on approaches and technologies which can be used today. It is designed for engineers involved in field development, but also for petroleum engineering students.

Contents: 1. History and economics of long-distance

pipelines. 2. Sizing and specifying pipe. 3. Selecting the route. 4. Protection against corrosion. 5. Pipe laying. 6. Power sources and drivers. 7. Pumps and compressors. 8. Instrumentation and control. 9. Auxiliary equipment. 10. Technical operating problems. 11. Traffic management. 12. Special maintenance equipment and methods. 13. Safety and supervision. References.

Instant answers to your toughest questions on piping components and systems! It's impossible to know all the answers when piping questions are on the table - the field is just too broad. That's why even the most experienced engineers turn to Piping Handbook, edited by Mohinder L. Nayyar, with contribution from top experts in the field. The Handbook's 43 chapters--14 of them new to this edition--and 9 new appendices provide, in one place, everything you need to work with any type of piping, in any type of piping system: design layout selection of materials fabrication and components operation installation maintenance This world-class reference is packed with a comprehensive array of analytical tools, and illustrated with fully-worked-out examples and case histories. Thoroughly updated, this seventh edition features revised and new information on design practices, materials, practical applications and industry codes and standards--plus every calculation you need to do the job.

• Updated edition of a best-selling title • Author brings 25 years experience to the work • Addresses the key issues of economy and environment Marine pipelines for the transportation of oil and gas have become a safe and reliable way to exploit the valuable resources below the world’s seas and oceans. The design of these pipelines is a relatively new technology and continues to evolve in its quest to reduce costs and minimise the effect on the environment. With over 25years experience, Professor Yong Bai has been able to assimilate the essence of the applied mechanics aspects of

offshore pipeline system design in a form of value to students and designers alike. It represents an excellent source of up to date practices and knowledge to help equip those who wish to be part of the exciting future of this industry.

Taking a big-picture approach, Piping and Pipeline Engineering: Design, Construction, Maintenance, Integrity, and Repair elucidates the fundamental steps to any successful piping and pipeline engineering project, whether it is routine maintenance or a new multi-million dollar project. The author explores the qualitative details, calculations, and t

Petroleum Production Engineering, Second Edition, updates both the new and veteran engineer on how to employ day-to-day production fundamentals to solve real-world challenges with modern technology. Enhanced to include equations and references with today's more complex systems, such as working with horizontal wells, workovers, and an entire new section of chapters dedicated to flow assurance, this go-to reference remains the most all-inclusive source for answering all upstream and midstream production issues. Completely updated with five sections covering the entire production spectrum, including well productivity, equipment and facilities, well stimulation and workover, artificial lift methods, and flow assurance, this updated edition continues to deliver the most practical applied production techniques, answers, and methods for today's production engineer and manager. In addition, updated Excel spreadsheets that cover the most critical production equations from the book are included for download. Updated to cover today's critical production challenges, such as flow assurance, horizontal and multi-lateral wells, and workovers Guides users from theory to

practical application with the help of over 50 online Excel spreadsheets that contain basic production equations, such as gas lift potential, multilateral gas well deliverability, and production forecasting Delivers an all-inclusive product with real-world answers for training or quick look up solutions for the entire petroleum production spectrum

Scale, or deposits, can build up in the wellbore tubulars and other downhole components, causing considerable damage to the life of the well. Infrastructure provides the support for the wells system and with oil and gas consumption on the rise and transportation required to feed that demand, all petroleum and pipeline engineers must have accurate corrosion and scaling information. The Fundamentals of Corrosion and Scaling for Petroleum and Environmental Engineers will provide the quick knowledge that engineers need to not only enhance the reliability of corrosion and scale control technologies but also manage scale deposits, prevent fatigue and ensure equipment integrity.

Unearth the Secrets of Designing and Building High-Quality Buried Piping Systems This brand-new edition of Buried Pipe Design helps you analyze the performance of a wide range of pipes, so you can determine the proper pipe and installation system for the job. Covering almost every type of rigid and flexible pipe, this unique reference identifies and describes factors involved in working with sewer and drain lines, water and gas mains, subway tunnels, culverts, oil and coals slurry lines, and telephone and electrical conduits. It provides clear examples for designing new municipal drinking and

wastewater systems or rehabilitating existing ones that will last for many years on end. Comprehensive in scope and meticulously detailed in content, this is the pipe design book you'll want for a reference. This NEW edition includes: Important data on the newest pipe styles, including profile-wall polyethylene Updated references to ASTM, AWWA, and ASHTTO, standards Numerous examples of specific types of pipe system designs Safety precautions included in installation specifications Greater elaboration on trenchless technology methods New information on the cyclic life of PVC pressure pipe Buried Pipe Design covers the ins and outs of: External Loads Gravity Flow Pipe Design Pressure Pipe Design Rigid Pipe Products Flexible Steel Pipe Flexible Ductile Iron Pipe Flexible Plastic Pipe Pipe Installation Trenchless Technology

For over forty years, Pipeline Rules of Thumb Handbook continues to serve as the "go-to" source for all pipeline engineering answers. Now in its ninth edition, this reference continues to update today's engineers with the most critical answers to the most complex pipeline challenges. Updated with new data, graphs, and chapters devoted to economics and environment, Pipeline Rules of Thumb Handbook, Ninth Edition delivers on new topics including emissions, decommissioning, cost curves and more while still maintaining the quick answer standard display of content and data that engineers have utilized throughout their careers. Glossaries are added per chapter for better learning tactics and additional storage tank fundamentals are added along with LNG fundamentals. Pipeline Rules

of Thumb Handbook, Ninth Edition continues to be the high-quality classic reference to help pipeline engineers solve their day to day problems. Get updated with new chapters highlighting costs, safety, and environmental topics including emissions Learn terminology with glossaries inserted in every chapter Obtain quick answers with renovated graphs and data tables applied throughout

Fundamentals of Gas Lift Engineering: Well Design and Troubleshooting discusses the important topic of oil and gas reservoirs as they continue to naturally deplete, decline, and mature, and how more oil and gas companies are trying to divert their investments in artificial lift methods to help prolong their assets. While not much physically has changed since the invention of the King Valve in the 1940s, new developments in analytical procedures, computational tools and software, and many related technologies have completely changed the way production engineers and well operators face the daily design and troubleshooting tasks and challenges of gas lift, which can now be carried out faster, and in a more accurate and productive way, assuming the person is properly trained. This book fulfills this training need with updates on the latest gas lift designs, troubleshooting techniques, and real-world field case studies that can be applied to all levels of situations, including offshore. Making operational and troubleshooting techniques central to the discussion, the book empowers the engineer, new and experienced, to analyze the challenge involved and make educated adjustments and conclusions in the most economical and

practical way. Packed with information on computer utilization, inflow and outflow performance analysis, and worked calculation examples made for training, the book brings fresh air and innovation to a long-standing essential component in a well's lifecycle. Covers essential gas lift design, troubleshooting, and the latest developments in R&D Provides real-world field experience and techniques to solve both onshore and offshore challenges Offers past and present analytical and operational techniques available in an easy-to-read manner Features information on computer utilization, inflow and outflow performance analysis, and worked calculation training examples

This book is concerned with the steady state hydraulics of natural gas and other compressible fluids being transported through pipelines. Our main approach is to determine the flow rate possible and compressor station horsepower required within the limitations of pipe strength, based on the pipe materials and grade. It addresses the scenarios where one or more compressors may be required depending on the gas flow rate and if discharge cooling is needed to limit the gas temperatures. The book is the result of over 38 years of the authors' experience on pipelines in North and South America while working for major energy companies such as ARCO, El Paso Energy, etc.

"Pipelines perform vital functions. They serve as arteries, bringing life-dependent supplies such as water, petroleum products, and natural gas to consumers through a dense underground network of transmission and distribution lines. They also serve as veins,

transporting life-threatening waste (sewage) generated by households and industries to waste treatment plants for processing via a dense network of sewers. Because most pipelines are buried underground or underwater, they are out of sight and out of mind of the general public. The public pays little attention to pipelines unless and until a water main leaks, a sewer is clogged, or a natural gas pipeline causes an accident. However, as our highways and streets become increasingly congested with automobiles, and as the technology of freight pipelines continues to improve, the public is beginning to realize the need to reduce the use of trucks and to shift more freight transport to underground pipelines. Pipeline engineering requires an understanding of a wide range of topics. Operators must take into account numerous pipeline codes and standards, calculation approaches, and reference materials in order to make accurate and informed decisions. Pipeline Engineering provides concise, easy-to-use, and accessible information on onshore and offshore pipeline engineering. Topics covered include: design; construction; testing; operation and maintenance; and decommissioning."

Now in dynamic full color, SI ENGINEERING FUNDAMENTALS: AN INTRODUCTION TO ENGINEERING, 5e helps students develop the strong problem-solving skills and solid foundation in fundamental principles they will need to become analytical, detail-oriented, and creative engineers. The book opens with an overview of what engineers do, an inside glimpse of the various areas of specialization, and

a straightforward look at what it takes to succeed. It then covers the basic physical concepts and laws that students will encounter on the job. Professional Profiles throughout the text highlight the work of practicing engineers from around the globe, tying in the fundamental principles and applying them to professional engineering. Using a flexible, modular format, the book demonstrates how engineers apply physical and chemical laws and principles, as well as mathematics, to design, test, and supervise the production of millions of parts, products, and services that people use every day. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Written for the piping engineer and designer in the field, this two-part series helps to fill a void in piping literature, since the Rip Weaver books of the '90s were taken out of print at the advent of the Computer Aid Design (CAD) era. Technology may have changed, however the fundamentals of piping rules still apply in the digital representation of process piping systems. The Fundamentals of Piping Design is an introduction to the design of piping systems, various processes and the layout of pipe work connecting the major items of equipment for the new hire, the engineering student and the veteran engineer needing a reference.

Here is hands-on information for taking measurements and making the calculations necessary for cathodic protection of buried pipe lines.

Pipeline engineering has struggled to develop as a single field of study due to the wide range of industries and government organizations using different types of pipelines for all types of solids, liquids, and gases. This fragmentation

has impeded professional development, job mobility, technology transfer, the diffusion of knowledge, and the movement of manpower. No single, authoritative course or book has existed to unite practitioners. In response, Pipeline Engineering covers the essential aspects and types of pipeline engineering in a single volume. This work is divided into two parts. Part I, Pipe Flows, delivers an integrated treatment of all variants of pipe flow including incompressible and compressible, Newtonian and non-Newtonian, slurry and multiphase flows, capsule flows, and pneumatic transport of solids. Part II, Engineering Considerations, summarizes the equipment and methods required for successful planning, design, construction, operation, and maintenance of pipelines. By addressing the fundamentals of pipeline engineering-concepts, theories, equations, and facts-this groundbreaking text identifies the cornerstones of the discipline, providing engineers with a springboard to success in the field. It is a must-read for all pipeline engineers.

Oil and Gas Pipelines and Piping Systems: Design, Construction, Management, and Inspection delivers all the critical aspects needed for oil and gas piping and pipeline condition monitoring and maintenance, along with tactics to minimize costly disruptions within operations. Broken up into two logical parts, the book begins with coverage on pipelines, including essential topics, such as material selection, designing for oil and gas central facilities, tank farms and depots, the construction and installment of transportation pipelines, pipe cleaning, and maintenance checklists. Moving over to piping, information covers piping material selection and designing and construction of plant piping systems, with attention paid to flexibility analysis on piping stress, a must-have component for both refineries with piping and pipeline systems. Heavily illustrated and practical for engineers and managers in oil and gas today, the book supplies the oil and

gas industry with a must-have reference for safe and effective pipeline and piping operations. Presents valuable perspectives on pipelines and piping operations specific to the oil and gas industry Provides all the relevant American and European codes and standards, as well as English and Metric units for easier reference Includes numerous visualizations of equipment and operations, with illustrations from various worldwide case studies and locations

Now in its sixth edition, Pipeline Rules of Thumb Handbook has been and continues to be the standard resource for any professional in the pipeline industry. A practical and convenient reference, it provides quick solutions to the everyday pipeline problems that the pipeline engineer, contractor, or designer faces. Pipeline Rules of Thumb Handbook assembles hundreds of shortcuts for pipeline construction, design, and engineering. Workable "how-to" methods, handy formulas, correlations, and curves all come together in this one convenient volume. Save valuable time and effort using the thousands of illustrations, photographs, tables, calculations, and formulas available in an easy to use format Updated and revised with new material on project scoping, plastic pipe data, HDPE pipe data, fiberglass pipe, NEC tables, trenching, and much more A book you will use day to day guiding every step of pipeline design and maintenance

Handbook of Multiphase Flow Assurance allows readers to progress in their understanding of basic phenomena and complex operating challenges. The book starts with the fundamentals, but then goes on to discuss phase behavior, fluid sampling, fluid flow properties and fluid characterization. It also covers flow assurance impedance, deliverability, stability and integrity issues, as well as hydraulic, thermal and risk analysis. The inclusion of case studies and references helps provide an industrial focus and practical application that

makes the book a novel resource for flow assurance management and an introductory reference for engineers just entering the field of flow assurance. Starts with flow assurance fundamentals, but also includes more complex operating challenges Brings together cross-disciplinary discussions and solutions of flow assurance in a single text Offers case studies and reference guidelines for practical applications

Fundamentals of Pipeline...Editions OPHRYSFundamentals of Pipeline EngineeringTechnip Editions

The supply of petroleum continues to dwindle at an alarming rate, yet it is the source of a range of products- from gasoline and diesel to plastic, rubber, and synthetic fiber. Critical to the future of this commodity is that we learn to use it more judiciously and efficiently. Fundamentals of Petroleum and Petrochemical Engineering provides a holi

Mitigation of Gas Pipeline Integrity Problems presents the methodology to enable engineers, experienced or not, to alleviate pipeline integrity problems during operation. It explains the principal considerations and establishes a common approach in tackling technical challenges that may arise during gas production. Covers third-party damage, corrosion, geotechnical hazards, stress corrosion cracking, off-spec sales gas, improper design or material selection, as-built flaws, improper operations, and leak and break detection Details various hazard mitigation options Offers tested concepts of pipeline integrity blended with recent research results, documented in a scholarly fashion to make it simple to the average reader This

practical work serves the needs of advanced students, researchers, and professionals working in pipeline engineering and petrochemical industries. Practicing engineers in the offshore and reservoir engineering industry will find this timely volume filled with practical advice and expert information on current oil field development from oil exploration to production.

The first of its kind, this modern, comprehensive text covers both analysis and design of piping systems. The authors begin with a review of basic hydraulic principles, with emphasis on their use in pumped pipelines, manifolds, and the analysis and design of large pipe networks. After the reader obtains an understanding of how these principles are implemented in computer solutions for steady state problems, the focus then turns to unsteady hydraulics. These are covered at three levels: Taking a big-picture approach, Piping and Pipeline Engineering: Design, Construction, Maintenance, Integrity, and Repair elucidates the fundamental steps to any successful piping and pipeline engineering project, whether it is routine maintenance or a new multi-million dollar project. The author explores the qualitative details, calculations, and techniques that are essential in supporting competent decisions. He pairs coverage of real world practice with the underlying technical principles in materials, design, construction,

inspection, testing, and maintenance. Discover the seven essential principles that will help establish a balance between production, cost, safety, and integrity of piping systems and pipelines The book includes coverage of codes and standards, design analysis, welding and inspection, corrosion mechanisms, fitness-for-service and failure analysis, and an overview of valve selection and application. It features the technical basis of piping and pipeline code design rules for normal operating conditions and occasional loads and addresses the fundamental principles of materials, design, fabrication, testing and corrosion, and their effect on system integrity.

The third edition of this highly successful volume is fully updated and includes new information on buoyancy control, Trenchless Crossing methods, as well as on Compressor Fuel Calculations and Optimization, Hydrotesting and LPG Pipelining. This book offers straightforward, practical techniques for pipeline design and construction, making it an ideal professional reference, training tool, or comprehensive text.The authors present the various elements that make up a single-phase liquid and gas pipeline system, including how to design, construct, commission, and assess pipelines and related facilities. They discuss gas and liquid transmission, compression, pumps, protection and integrity, procurement services, and the management of

pipeline projects. More complex specialty fluids are also covered, including CO2, H2, slurry and multi-products.

Handbook of Natural Gas Transmission and Processing gives engineers and managers complete coverage of natural gas transmission and processing in the most rapidly growing sector to the petroleum industry. The authors provide a unique discussion of new technologies that are energy efficient and environmentally appealing at the same time. It is an invaluable reference on natural gas engineering and the latest techniques for all engineers and managers moving to natural gas processing as well as those currently working on natural gas projects. Provides practicing engineers critical information on all aspects of gas gathering, processing and transmission First book that treats multiphase flow transmission in great detail Examines natural gas energy costs and pricing with the aim of delivering on the goals of efficiency, quality and profit

Flow Analysis for Hydrocarbon Pipeline Engineering gives engineers a tool to help them determine fluid dynamics. The book describes hydrocarbon fluid transport in pipelines by presenting useful applied thermodynamic derivations specialized for pipelines. All transport phenomena is covered, such as heat, momentum and mass transport. Moving past the fundamentals, the reference addresses the complexity of these fluids and dedicates a chapter

on multiphase mixtures, including slugging, hydrates, wax and sand. Rounding out with practical case studies, this book delivers a critical reference for engineers and flow assurance experts that will help them correlate basic fluid principles with applied engineering practices. Includes discussions on sustainable operations such as CO2 transport in pipelines utilized in carbon capture and hydrocarbon recovery operations Delivers multiple case studies for practical applications and lessons learned Describes hydrocarbon fluid transport in pipelines by presenting useful applied thermodynamic derivations specialized for pipelines

The Engineer's Guide to Plant Layout and Piping Design for the Oil and Gas Industries gives pipeline engineers and plant managers a critical real-world reference to design, manage, and implement safe and effective plants and piping systems for today's operations. This book fills a training void with complete and practical understanding of the requirements and procedures for producing a safe, economical, operable and maintainable process facility. Easy to understand for the novice, this guide includes critical standards, newer designs, practical checklists and rules of thumb. Due to a lack of structured training in academic and technical institutions, engineers and pipe designers today may understand various computer software programs but lack the fundamental understanding and

implementation of how to lay out process plants and run piping correctly in the oil and gas industry. Starting with basic terms, codes and basis for selection, the book focuses on each piece of equipment, such as pumps, towers, underground piping, pipe sizes and supports, then goes on to cover piping stress analysis and the daily needed calculations to use on the job. Delivers a practical guide to pipe supports, structures and hangers available in one go-to source Includes information on stress analysis basics, quick checks, pipe sizing and pressure drop Ensures compliance with the latest piping and plant layout codes and complies with worldwide risk management legislation and HSE Focuses on each piece of equipment, such as pumps, towers, underground piping, pipe sizes and supports Covers piping stress analysis and the daily needed calculations to use on the job

Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of

solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

Fundamentals of Applied Reservoir Engineering introduces early career reservoir engineers and those in other oil and gas disciplines to the fundamentals of reservoir engineering. Given that modern reservoir engineering is largely centered on numerical computer simulation and that reservoir engineers in the industry will likely spend much of their professional career building and running such simulators, the book aims to encourage the use of simulated models in an appropriate way and exercising good engineering judgment to start the process for any field by using all available methods, both modern simulators and simple numerical models, to gain an understanding of the basic 'dynamics' of the reservoir –namely what are the major factors that will determine its performance. With the valuable addition of questions and exercises, including online spreadsheets to utilize day-to-day application and bring together the basics of reservoir engineering, coupled with petroleum economics and appraisal and development optimization, Fundamentals of Applied Reservoir Engineering will be an invaluable reference to the industry professional who wishes to understand how reservoirs fundamentally work and to how a reservoir engineer starts the performance process. Covers reservoir appraisal, economics, development planning, and optimization to assist reservoir engineers in their decision-making. Provides appendices on enhanced oil recovery, gas well testing, basic fluid thermodynamics, and mathematical operators to enhance comprehension of the book’s main topics.

Offers online spreadsheets covering well test analysis, material balance, field aggregation and economic indicators to help today's engineer apply reservoir concepts to practical field data applications. Includes coverage on unconventional resources and heavy oil making it relevant for today's worldwide reservoir activity.

As deepwater wells are drilled to greater depths, pipeline engineers and designers are confronted with new problems such as water depth, weather conditions, ocean currents, equipment reliability, and well accessibility. Subsea Pipeline Design, Analysis and Installation is based on the authors' 30 years of experience in offshore. The authors provide rigorous coverage of the entire spectrum of subjects in the discipline, from pipe installation and routing selection and planning to design, construction, and installation of pipelines in some of the harshest underwater environments around the world. All-inclusive, this must-have handbook covers the latest breakthroughs in subjects such as corrosion prevention, pipeline inspection, and welding, while offering an easy-to-understand guide to new design codes currently followed in the United States, United Kingdom, Norway, and other countries. Gain expert coverage of international design codes Understand how to design pipelines and risers for today's deepwater oil and gas Master critical equipment such as subsea control systems and pressure piping Liquefied natural gas (LNG) is a commercially attractive phase of the commodity that facilitates the efficient handling and transportation of natural gas around the

world. The LNG industry, using technologies proven over decades of development, continues to expand its markets, diversify its supply chains and increase its share of the global natural gas trade. The Handbook of Liquefied Natural Gas is a timely book as the industry is currently developing new large sources of supply and the technologies have evolved in recent years to enable offshore infrastructure to develop and handle resources in more remote and harsher environments. It is the only book of its kind, covering the many aspects of the LNG supply chain from liquefaction to regasification by addressing the LNG industries' fundamentals and markets, as well as detailed engineering and design principles. A unique, well-documented, and forward-thinking work, this reference book provides an ideal platform for scientists, engineers, and other professionals involved in the LNG industry to gain a better understanding of the key basic and advanced topics relevant to LNG projects in operation and/or in planning and development. Highlights the developments in the natural gas liquefaction industries and the challenges in meeting environmental regulations Provides guidelines in utilizing the full potential of LNG assets Offers advices on LNG plant design and operation based on proven practices and design experience Emphasizes technology selection and innovation with focus on a "fit-for-purpose design Updates code and regulation, safety, and security requirements for LNG applications

Offshore Pipelines covers the full scope of pipeline development from pipeline designing, installing, and

testing to operating. It gathers the authors' experiences gained through years of designing, installing, testing, and operating submarine pipelines. The aim is to provide engineers and management personnel a guideline to achieve cost-effective management in their offshore and deepwater pipeline development and operations. The book is organized into three parts. Part I presents design practices used in developing submarine oil and gas pipelines and risers. Contents of this part include selection of pipe size, coating, and insulation. Part II provides guidelines for pipeline installations. It focuses on controlling bending stresses and pipe stability during laying pipelines. Part III deals with problems that occur during pipeline operations. Topics covered include pipeline testing and commissioning, flow assurance engineering, and pigging operations. This book is written primarily for new and experienced engineers and management personnel who work on oil and gas pipelines in offshore and deepwater. It can also be used as a reference for college students of undergraduate and graduate levels in Ocean Engineering, Mechanical Engineering, and Petroleum Engineering. * Pipeline design engineers will learn how to design low-cost pipelines allowing long-term operability and safety. * Pipeline operation engineers and management personnel will learn how to operate their pipeline systems in a cost effective manner. * Deepwater pipelining is a new technology developed in the past ten years and growing quickly.