

Introduction To Subsea Engineering

The mooring system is a vital component of various floating facilities in the oil, gas, and renewables industries. However, there is a lack of comprehensive technical books dedicated to the subject. Mooring System Engineering for Offshore Structures is the first book delivering in-depth knowledge on all aspects of mooring systems, from design and analysis to installation, operation, maintenance and integrity management. The book gives beginners a solid look at the fundamentals involved during mooring designs with coverage on current standards and codes, mooring analysis and theories behind the analysis techniques. Advanced engineers can stay up-to-date through operation, integrity management, and practical examples provided. This book is recommended for students majoring in naval architecture, marine or ocean engineering, and allied disciplines in civil or mechanical engineering. Engineers and researchers in the offshore industry will benefit from the knowledge presented to understand the various types of mooring systems, their design, analysis, and operations. Understand the various types of mooring systems and the theories behind mooring analysis Gain practical experience and lessons learned from worldwide case studies Combine engineering fundamentals with practical applications to solve today's offshore challenges

Case Studies of Material Corrosion Prevention for Oil and Gas Valves delivers a critical reference for engineers and corrosion researchers. Packed with nearly 30 real-world case studies, this reference gives engineers standardized knowledge on how to maintain, select and prevent typical corrosion problems in a variety of oil and gas settings. Subsea, offshore, refineries and processing plants are all included, covering a variety of challenges such as chloride stress cracking, how to use Teflon powder to prevent cross contamination, and carbon dioxide corrosion. Organized for quick discovery, this book gives engineers a much-needed tool to safely protect their assets and the environment. Engineers working in oil and gas operations understand that corrosion is a costly expense that increases emissions and damages the environment, but many standards do not provide practical examples with solutions, leaving engineers to learn through experience. This resource provides comprehensive information on topics of interest. Provides solutions to common oil and gas corrosion valve failures with standard case studies Helps readers improve safety and reliability with the addition of references for further training Presents tactics on how to reduce environmental impact and use

methods to prevent corrosion across offshore, subsea and refinery activities

Decommissioning Forecasting and Operating Cost Estimation: Gulf of Mexico Well Trends, Structure Inventory and Forecast Models helps engineers and offshore managers effectively develop models to forecast platform decommissioning and active structure inventories. Discussing economic limit factors, reserves and resources, this reference dives into well trends and examines structure inventories before covering model results for active structure forecasts presented for both shallow and deepwater activities. Rounding out with a review of critical infrastructure issues and operating costs, the book helps engineers and offshore managers navigate this complex and technically challenging process that can bring immense economic benefit and improved sustainability.

Progress in Maritime Technology and Engineering collects the papers presented at the 4th International Conference on Maritime Technology and Engineering (MARTECH 2018, Lisbon, Portugal, 7-9 May 2018). This conference has evolved from a series of biannual national conferences in Portugal, and has developed into an international event, reflecting the internationalization of the maritime sector and its activities. MARTECH 2018 is the fourth in this new series of biannual conferences. Progress in Maritime Technology and Engineering contains about 80 contributions from authors from all parts of the world, which were reviewed by an International Scientific Committee. The book is divided into the subject areas below: - Port performance - Maritime transportation and economics - Big data in shipping - Intelligent ship navigation - Ship performance - Computational fluid dynamics - Resistance and propulsion - Ship propulsion - Dynamics and control - Marine pollution and sustainability - Ship design - Ship structures - Structures in composite materials - Shipyard technology - Coating and corrosion - Maintenance - Risk analysis - Offshore and subsea technology - Ship motion - Ships in transit - Wave-structure interaction - Wave and wind energy - Waves Progress in Maritime Technology and Engineering will be of interest to academics and professionals involved in the above mentioned areas.

Handbook of Offshore Oil and Gas Operations

Proceedings of the 3rd International Gas Processing Symposium

Encyclopedia of Ocean Engineering

Case Studies of Material Corrosion Prevention for Oil and Gas Valves

Introduction to Chemical Engineering

The precipitation and deposition of solids are a major challenge in the production of oil and gas. Flow assurance solids are formed

because of unavoidable changes in temperature, pressure and composition of the oil-gas-water flowstream, from reservoir conditions to processing conditions. The advent of subsea production and the increased exploitation of heavy crudes have made flow assurance issues dominant in ensuring efficient and safe exploitation of hydrocarbon assets. Five troublesome flow assurance solids are described in the book: asphaltene, paraffin wax, natural gas hydrate, naphthenate and inorganic scale. These big-five solids are presented in stand-alone chapters. Each chapter is designed to be readable without clutter. Derivations of equations and descriptions of supporting details are given in several appendices. The book is intended for professional engineers and natural scientist working in E&P companies, engineering companies, service companies and specialized companies. An understanding of the big-five solids is required throughout the lifetime of oil and gas assets, from early development to abandonment. The technical, safety and environmental risks associated with deposition problems in near-wellbore formations, production tubing, wellhead equipment, flowlines and processing facilities, are relevant for decisions in the oil and gas industry and in outside regulatory and financial entities.

Proceedings of the 3rd International Gas Processing Symposium; Copyright Page; List of Contents; Preface; International Technical Committee Members (Reviewers); Exercising the Option of CO₂ Slippage to Mitigate Acid Gas Flaring During SRU Expansion Bellow Failure; Abstract; 1. Introduction; 2. Methodology to minimize Acid Gas Flaring; 3. Conclusion; Flare Reduction Options and Simulation for the Qatari Oil and Gas Industry; Abstract; 1. Introduction; 2. Ethylene process overview; 3. Flare Reduction -- Industrial Case Study; 4. Result and discussion; 5. Conclusions; 6. Acknowledgment 7. References Review of Cooling Water Discharge Simulation Models; Abstract; 1. Introduction; 2. Model Comparison; 3. Conclusions; References; Combining post-combustion CO₂ capture with CO₂ utilization; Abstract; 1. Introduction; 2. Carbon capture; 3. Carbon dioxide disposal and utilization; 4. Conclusions; References; Step Change Adsorbents and Processes for CO₂ Capture "STEP CAP"; Abstract; 1. Introduction; 2. ...

This handbook is the definitive reference for the interdisciplinary field that is ocean engineering. It integrates the coverage of fundamental and applied material and encompasses a diverse spectrum of systems, concepts and operations in the maritime environment, as well as providing a comprehensive update on contemporary, leading-edge ocean technologies. Coverage includes an overview on the fundamentals of ocean science, ocean signals and instrumentation, coastal structures, developments in ocean energy technologies and ocean vehicles and automation. It aims at practitioners in a range of offshore industries and naval establishments as well as academic researchers and graduate students in ocean, coastal, offshore and marine engineering and naval architecture. The Springer Handbook of Ocean Engineering is organized in five parts: Part A: Fundamentals, Part B: Autonomous Ocean Vehicles, Subsystems and Control, Part C: Coastal Design, Part D: Offshore Technologies, Part E: Energy Conversion

This book shows how the engineering and architectural aspects of submarine design relate to each other, and describes the operational performance required of a vessel. The authors explain concepts of hydrodynamics, structure, powering and dynamics,

in addition to architectural considerations that bear on the submarine design process. They pay particular attention to the interplay among these aspects of design, and devote a final chapter to the generation of the concept design for the submarine as a whole. Submarine design makes extensive use of computers, and the authors give examples of algorithms used in concept design. They provide engineering insight as well as an understanding of the intricacies of the submarine design process. The book will serve as a text for students and as a reference manual for practicing engineers and designers in marine and naval engineering.

Progress in Subsea Engineering

Mooring System Engineering for Offshore Structures

Oil and Gas Production Handbook: An Introduction to Oil and Gas Production

Subsea Pipeline Design, Analysis, and Installation

Concepts In Submarine Design

Submarine Optical Cable Engineering presents a summary and exposition from authors engaged in the submarine optical cable engineering field. It systematically discusses the theory and practice of engineering site selection, route survey, laying construction, system maintenance, and safety in operation and information management, all topics relating to the long-term development and progress of science and technology. As there are now more than 230 extant systems, with a total length of more than one million kilometers, this book compiles the wealth of experience that has accumulated regarding their construction stemming from the first inter ocean submarine cable system (TAT-8) built in 1988. Describes and summarizes the theory and practice of submarine optical cable engineering site selection, route survey, laying construction, system maintenance, safety in operation and information management Presents analysis derived from active engagement in the construction of submarine optical cables engineering taken from decades of experience Embodies the theory of marine science and engineering practice, combining multidisciplinary and interdisciplinary combination of knowledge and international perspective on the characteristics and the discussion of theory, technology and methods Introduces the international submarine cable protection organizations, relevant law and the law of the sea

Corrosion Protection for the Oil and Gas Industry: Pipelines, Subsea Equipment, and Structures summarizes the main causes of corrosion and requirements for materials protection, selection of corrosion-resistant materials and coating materials commonly used for corrosion protection, and the limitations to their use, application, and repair. This book focuses on the protection of steels against corrosion in an aqueous environment, either immersed in seawater or buried. It also includes guidelines for the design of cathodic protection systems and reviews of cathodic protection methods, materials, installation, and monitoring. It is concerned primarily with the external and internal corrosion protection of onshore pipelines and subsea pipelines, but reference is also made to the protection of other equipment, subsea structures, risers, and shore approaches. Two case studies, design examples, and the author's own experiences as a pipeline integrity engineer are featured in this book. Readers will develop a high quality and in-depth understanding of the corrosion protection methods available and apply them to solve corrosion engineering problems. This book is aimed at students, practicing engineers, and scientists as an introduction to corrosion protection for the oil and gas industry, as well as to overcoming corrosion issues.

This book provides a comprehensive understanding of each aspect of offshore operations including conventional methods of operations, emerging technologies, legislations, health, safety and environment impact of offshore operations. The book starts by coverage of notable offshore fields across the globe and the statistics of present oil production, covering all types of platforms available along with their structural details. Further, it discusses production, storage and transportation, production equipment, safety systems, automation, storage facilities and transportation. Book ends with common legislation acts and comparison of different legislation acts of major oil/gas producing nations. The book is aimed at professionals and researchers in petroleum engineering, offshore technology, subsea engineering, and Explores the engineering, technology, system, environmental, operational and legislation aspects of offshore productions systems Covers most of the subsea engineering material in a concise manner Includes legislation of major oil and gas producing nations pertaining to offshore operations (oil and gas) Incorporates case studies of major offshore operations (oil and gas) accidents and lessons learnt Discusses environment impact of offshore operations

Designing and building structures that will withstand the unique challenges that exist in Subsea operations is no easy task. As deepwater wells are drilled to greater depths, engineers are confronted with a new set problems such as water depth, weather conditions, ocean currents, equipment reliability, and well accessibility, to name just a few. A definitive reference for engineers designing, analyzing and instilling offshore structures, Subsea Structural Engineering Handbook provides an expert guide to the key processes, technologies and equipment that comprise contemporary offshore structures. Written in a clear and easy to understand language, the book is based on the authors 30 years of experience in the design, analysis and instillation of offshore structures. This book answers the above mentioned crucial questions as well as covers the entire spectrum of subjects in the discipline, from route selection and planning to design, construction, installation, materials and corrosion, inspection, welding, repair, risk assessment, and applicable design solutions. It yields a roadmap not only for the subsea engineer but also the project managers, estimators and regulatory personnel hoping to gain an appreciation of the overall issues and directed approaches to subsea engineering design solutions. Up-to-date technical overview of deepwater riser engineering Easy to understand Coverage of design, analysis and, stallation Addresses issues concerning both fixed and floating platforms Covers technical equipment such as Subsea Control Systems, Pressure Piping, Connectors and Equipment Layout as well as Remotely-operated vehicles

Decommissioning Forecasting and Operating Cost Estimation

Submarine Optical Cable Engineering

An Introduction, Third Edition

For Chemical Engineers and Students

International Journal of Engineering Research in Africa

Piping and valve engineers rely on common industrial standards for selecting and maintaining valves, but these standards are not specific to the subsea oil and gas industry. Subsea Valves and Actuators for the Oil and Gas Industry delivers a needed reference to go beyond the standard to specify how to select, test, and maintain the right subsea oil and gas valve

for the project. Each chapter focuses on a specific type of valve with a built-in structured table on valve selection, helping guide the engineer to the most efficient valve. Covering subsea-specific protection, the reference also gives information on high pressure protection systems (HIPPS) and discusses corrosion management within the subsea sector, such as Hydrogen Induced Stress Cracking Corrosion (HISC). Additional benefits include understanding the concept of different safety valves in subsea, selecting different valves and actuators located on subsea structures such as Christmas trees, manifolds, and HIPPS modules, with a full detail review including sensors, logic solver, and solenoid which is designed to save cost and improve the reliability in the subsea system. Rounding out with chapters on factory acceptance testing (FAT) and High Integrity Pressure Protection Systems (HIPPS), Subsea Valves and Actuators for the Oil and Gas Industry gives subsea engineers and managers a much-needed tool to better understand today's subsea technology. Understand practical information about all types of subsea valves and actuators with over 600 visuals and several case studies Learn and review the applicable standards and specifications from API and ISO in one convenient location Protect your assets with a high-pressure protection system (HIPPS) and subsea-specific corrosion management including Hydrogen Induced Stress Cracking Corrosion (HISC)

Subsea Engineering Handbook Gulf Professional Publishing

Whether the result of an oil well blowout, vessel collision or grounding, leaking pipeline, or other incident at sea, each marine oil spill will present unique circumstances and challenges. The oil type and properties, location, time of year, duration of spill, water depth, environmental conditions, affected biomes, potential human community impact, and available resources may vary significantly. Also, each spill may be governed by policy guidelines, such as those set forth in the National Response Plan, Regional Response Plans, or Area Contingency Plans. To respond effectively to the specific conditions presented during an oil spill, spill responders have used a variety of response options—including mechanical recovery of oil using skimmers and booms, in situ burning of oil, monitored natural attenuation of oil, and dispersion of oil by chemical dispersants. Because each response method has advantages and disadvantages, it is important to understand specific scenarios where a net benefit may be achieved by using a particular tool or combination of tools. This report builds on two previous National Research Council reports on dispersant use to provide a current understanding of the state of science and to inform future marine oil spill response operations. The response to the 2010 Deepwater Horizon spill included an unprecedented use of dispersants via both surface application and subsea injection. The magnitude of the spill stimulated interest and funding for research on oil spill response, and dispersant use in particular. This study assesses the effects and efficacy of dispersants as an oil spill response tool and evaluates trade-offs associated with dispersant use.

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

An Introduction

Pipelines, Subsea Equipment, and Structures

Subsea Valves and Actuators for the Oil and Gas Industry

An Introduction to Offshore Engineering

Reservoir Exploration and Appraisal

The Integrated Ocean Drilling Program (IODP: 2000-2013) has provided crucial records of past and present processes and interactions within and between the biosphere, cryosphere, atmosphere, hydrosphere and geosphere. Research in IODP encompasses a wide range of fundamental and applied issues that affect society, such as global climate change, biodiversity, the origin of life, natural hazards involving the study of earthquakes processes, and the internal structure and dynamics of our planet. This compilation of major findings from the 2003-2013/14 phase of IODP, focusing on scientific results rather than description of data acquisition and early inferences, provides invaluable information. Anyone wondering what scientific drilling can achieve will gain quick understanding of the range of questions that are uniquely addressed with this methodology and the ways these data dovetail with other regional information. The excitement of breakthrough findings that occasionally accompanies a drilling project will be evident. IODP obtained unique records from the global ocean basins during the 2003-2013 program phase. This book highlights findings in three theme areas: Subseafloor life and the marine biosphere; Earth's changing environments; and Dynamics of the solid Earth. Each core or borehole log provides a window revealing insights that no other data achieve. Presents

syntheses of key results from the Integrated Ocean Drilling Program Encompasses a wide range of issues that affect society Describes the Integrated Ocean Drilling Program and its expeditions The field of chemical engineering is undergoing a global "renaissance," with new processes, equipment, and sources changing literally every day. It is a dynamic, important area of study and the basis for some of the most lucrative and integral fields of science. Introduction to Chemical Engineering offers a comprehensive overview of the concept, principles and applications of chemical engineering. It explains the distinct chemical engineering knowledge which gave rise to a general-purpose technology and broadest engineering field. The book serves as a conduit between college education and the real-world chemical engineering practice. It answers many questions students and young engineers often ask which include: How is what I studied in the classroom being applied in the industrial setting? What steps do I need to take to become a professional chemical engineer? What are the career diversities in chemical engineering and the engineering knowledge required? How is chemical engineering design done in real-world? What are the chemical engineering computer tools and their applications? What are the prospects, present and future challenges of chemical engineering? And so on. It also provides the information new chemical engineering hires would need to excel and cross the critical novice engineer stage of their career. It is expected that this book will enhance students understanding and performance in the field and the development of the profession worldwide. Whether a new-hire engineer or a veteran in the field, this is a must-have volume for any chemical engineer's library.

Handbook of Offshore Oil and Gas Operations is an authoritative source providing extensive up-to-date coverage of the technology used in the exploration, drilling, production, and operations in an offshore setting. Offshore oil and gas activity is growing at an expansive rate and this must-have training guide covers the full spectrum including geology, types of platforms, exploration methods, production and enhanced recovery methods, pipelines, and environmental management and impact, specifically worldwide advances in study, control, and prevention of the industry's impact on the marine environment and its living resources. In addition, this book provides a go-to glossary for quick reference. Handbook of Offshore Oil and Gas Operations empowers oil and gas engineers and managers to understand and capture on one of the fastest growing markets in the energy sector today. Quickly become familiar with the oil and gas offshore industry, including deepwater operations Understand the full spectrum of the

business, including environmental impacts and future challenges Gain knowledge and exposure on critical standards and real-world case studies

• 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.

Handbook of Offshore Engineering

Earth and Life Processes Discovered from Subseafloor Environments

Subsea and Pipeline Engineering

Progress in Maritime Technology and Engineering

Part 1. General features of offshore structures and theoretical background

The search for renewable energy and smart grids, the societal impact of blackouts, and the environmental impact of generating electricity, along with the new ABET criteria, continue to drive a renewed interest in electric energy as a core subject. Keeping pace with these changes, Electric Energy: An Introduction, Third Edition restructures the traditional introductory electric energy course to better meet the needs of electrical and mechanical engineering students. Now in color, this third edition of a bestselling textbook gives students a wider view of electric energy, without sacrificing depth. Coverage includes energy resources, renewable energy, power plants and their environmental impacts, electric safety, power quality, power market, blackouts, and future power systems. The book also makes the traditional topics of electromechanical conversion, transformers, power electronics, and three-phase systems more relevant to students. Throughout, it emphasizes issues that engineers encounter in their daily work, with numerous examples drawn from real systems and real data. What's New in This Edition

Color illustrations Substation and distribution equipment Updated data on energy resources Expanded coverage of power plants Expanded material on renewable energy Expanded material on electric safety Three-phase system and pulse width modulation for DC/AC converters Induction

generator More information on smart grids Additional problems and solutions Combining the fundamentals of traditional energy conversion with contemporary topics in electric energy, this accessible textbook gives students the broad background they need to meet future challenges. Covers certain specific systems utilized in offshore engineering and tested in the North Sea, such as general alarm systems, platform PABXs, marine radio telephones, aeronautical VHF radio, non-directional beacons, satellite subsea well control systems and more. Presented in a clear and concise way as an introductory text and practical handbook, the book provides the basic physical phenomena governing underwater acoustical waves, propagation, reflection, target backscattering and noise. It covers the general features of sonar systems, transducers and arrays, signal processing and performance evaluation. It provides an overview of today's applications, presenting the working principles of the various systems. From the reviews: "Presented in a clear and concise way as an introductory text and practical handbook, the book provides the basic physical phenomena governing underwater acoustical waves, propagation, reflection, target backscattering and noise. It provides an overview of today's applications, presenting the working principles of the various systems." (Oceanis, Vol. 27 (3-4), 2003) "This book is a general survey of Underwater Acoustics, intended to make the subject as easily accessible as possible, with a clear emphasis on applications. In this the author has succeeded, with a wide variety of subjects presented with minimal derivation. There is an emphasis on technology and on intuitive physical explanation." (Darrell R. Jackson, Journal of the Acoustic Society of America, Vol. 115 (2), February, 2004) "This is an exciting new scientific publication. It is timely and welcome. Furthermore, it is up to date and readable. It is well researched, excellently published and ranks with earlier books in this discipline. Many persons in the marine science field including acousticians, hydrographers, oceanographers, fisheries scientists, engineers, educators, students and equipment manufacturers will benefit greatly by reading all or part of this text. The author is to be congratulated on his fine contribution." (Stephen B. MacPhee, International Hydrographic Review, Vol. 4 (2), 2003)

This open access book offers a timely guide to challenges and current practices to permanently plug and abandon hydrocarbon wells. With a focus on offshore North Sea, it analyzes the process of plug and abandonment of hydrocarbon wells through the establishment of permanent well barriers. It provides the reader with extensive knowledge on the type of barriers, their

functioning and verification. It then discusses plug and abandonment methodologies, analyzing different types of permanent plugging materials. Last, it describes some tests for verifying the integrity and functionality of installed permanent barriers. The book offers a comprehensive reference guide to well plugging and abandonment (P & A) and well integrity testing. The book also presents new technologies that have been proposed to be used in plugging and abandoning of wells, which might be game-changing technologies, but they are still in laboratory or testing level. Given its scope, it addresses students and researchers in both academia and industry. It also provides information for engineers who work in petroleum industry and should be familiarized with P & A of hydrocarbon wells to reduce the time of P & A by considering it during well planning and construction.

Principles and Applications

Qatar, March 2012

Well Control for Completions and Interventions

Springer Handbook of Ocean Engineering

Well Control for Completions and Interventions explores the standards that ensure safe and efficient production flow, well integrity and well control for oil rigs, focusing on the post-Macondo environment where tighter regulations and new standards are in place worldwide. Too many training facilities currently focus only on the drilling side of the well's cycle when teaching well control, hence the need for this informative guide on the topic. This long-awaited manual for engineers and managers involved in the well completion and intervention side of a well's life covers the fundamentals of design, equipment and completion fluids. In addition, the book covers more important and distinguishing components, such as well barriers and integrity envelopes, well kill methods specific to well completion, and other forms of operations that involve completion, like pumping and stimulation (including hydraulic fracturing and shale), coiled tubing, wireline, and subsea intervention. Provides a training guide focused on well completion and intervention Includes coverage of subsea and fracturing operations Presents proper well kill procedures Allows readers to quickly get up-to-speed on today's regulations post-Macondo for well integrity, barrier management and other critical

operation components

Finding a new oil and gas discovery and evaluating its volume is a difficult and challenging task, and yet there is very little published on the topic. Luiz Amado delivers a one-of-a-kind introductory guide titled Reservoir Exploration and Appraisal. Providing logistical instruction and processes for the entire exploration and appraisal process, Amado furnishes the guidance, workflow, and practical recommendations needed based on real-world scenarios. Written by an engineer with over 15 years of experience in the North Sea, Gulf of Mexico, South America and West Africa, Reservoir Exploration and Appraisal equips engineers and economists with expert advice on critical subjects such as detailed methods of estimating recovery factors, creating production curves using either simple or complex approaches, understanding main fluid and rock properties that govern volume and productivity, and communicating examples of field case evaluations, including deepwater projects. Details methods of estimating recovery factors and rules of thumb that can be used if there is an absence of data How to create production curves using either simple or complex approaches Understanding main fluid and rock properties that govern volume and productivity, saving time from analyzing countless fluid samples or rock data from cores Describes the process of lease sales, bid rounds and farm-in opportunities Communicates examples of field case evaluations, including deepwater projects, to illustrate the steps covered in the book, showing the reader the full project cycle

Subsea repairs and inspection are costly for petroleum and pipeline engineers and proper training is needed to focus on ensuring system strength and integrity. Subsea Pipeline Integrity and Risk Management is the perfect companion for new engineers who need to be aware of the state-of-the-art techniques. This handbook offers a "hands-on" problem-solving approach to integrity management, leak detection, and reliability applications such as risk analysis. Wide-ranging and easy-to-use, the book is packed with data tables, illustrations, and calculations, with a focus on pipeline corrosion, flexible pipes, and subsea repair. Reliability-based models also provide a decision making tool for day-to-day use. Subsea Pipeline Integrity and Risk Management gives the engineer the power and

knowledge to protect offshore pipeline investments safely and effectively. Includes material selection for linepipe, especially selection of standard carbon steel linepipe Covers assessment of various types of corrosion processes and definition of anti-corrosion design against internal as well as external corrosion Gives process and flow assurance for pipeline systems including pipeline integrity management

This book on hydrocarbon exploration and production is the first volume in the series Developments in Petroleum Science. The chapters are: The Field Life Cycle, Exploration, Drilling Engineering, Safety and The Environment, Reservoir Description, Volumetric Estimation, Field Appraisal, Reservoir Dynamic Behaviour, Well Dynamic Behaviour, Surface Facilities, Production Operations and Maintenance, Project and Contract Management, Petroleum Economics, Managing the Producing Field, and Decommissioning.

Proceedings of the 4th International Conference on Maritime Technology and Engineering (MARTECH 2018), May 7-9, 2018, Lisbon, Portugal

Handbook of Bottom Founded Offshore Structures

Texte Imprimé

A Decade of Science Achieved by the Integrated Ocean Drilling Program (IODP)

Subsea Engineering Handbook

This encyclopedia adopts a wider definition for the concept of ocean engineering. Specifically, it includes (1) offshore engineering: fixed and floating offshore oil and gas platforms; pipelines and risers; cables and moorings; buoy technology; foundation engineering; ocean mining; marine and offshore renewable energy; aquaculture engineering; and subsea engineering; (2) naval architecture: ship and special marine vehicle design; intact and damaged stability; technology for energy efficiency and green shipping; ship production technology; decommissioning and recycling; (3) polar and Arctic Engineering: ice mechanics; ice-structure interaction; polar operations; polar design; environmental protection; (4) underwater technologies: AUV/ROV design; AUV/ROV hydrodynamics; maneuvering and control; and underwater-specific communicating and sensing systems for AUV/ROVs. It summarizes the A – Z of the background and application knowledge of ocean engineering for use by ocean scientists and ocean engineers as well as nonspecialists such as engineers and scientists from all disciplines, economists, students, and politicians. Ocean engineering theories, ocean devices and equipment, ocean design and operation technologies are described by international experts, many from industry and each entry offers an introduction and references for further study, making current technology and operating practices available for future generations to learn from. The book also furthers our understanding of the current state of the art, leading to new and more efficient technologies with breakthroughs from new theory and materials. As the land resources approach the exploitation limit, ocean resources are becoming the next choice for the sustainable development. As such, ocean engineering is vital in the

21st century.

Offshore Engineering continues to develop and expand rapidly. While in the public eye its focus has shifted towards subsea and floating developments in ever deeper waters, bottom founded structures are still at the industry ' s heart. The fixed structure remains its dependable workhorse and even today newly installed fixed structures far outnumber subsea and floating applications. Additionally, the knowledge and technology that have (literally) pushed the boundaries of Offshore Engineering into ever more demanding environments and water depths have been largely pioneered by bottom founded structures. An engineer ' s central skill is to develop coherent and balanced models for the problems encountered. Regrettably, due to availability of ever more sophisticated computer applications this expertise is at risk of getting lost, and adopting computer outcomes without truly understanding the models and their limitations is naive, risky and unprofessional. Therefore, every engineer needs fundamental knowledge and understanding of underlying theories and technologies. This Handbook is intended to help offshore engineers acquire and sustain relevant expertise in some notoriously difficult subjects. It attempts to stimulate reflection and critical evaluation of the models used and the strengths and weaknesses of the solutions found. While dealing more specifically with bottom founded structures, the material is generally applicable to offshore structures of all types. The Handbook can be used as a textbook for Master ' s students and as a manual and reference guide for practising professionals.

The 39th volume of International Journal of Engineering Research in Africa contains articles describing the research results in the fields of materials science, mechanical engineering, power engineering, construction materials and technologies, technological processes in the chemical production, planning and scheduling of production system. The articles will be useful for many engineers as well as for academic teachers and students majoring in these fields of engineering science.

Subsea production systems, overview of subsea engineering, subsea field development, subsea distribution system. Flow assurance and system engineering. Subsea structure and equipment. Subsea umbilical, risers and flowlines.

Subsea Pipelines and Risers

The Use of Dispersants in Marine Oil Spill Response

A Handbook Produced to Accompany a Bentham Technical Training Course

Hydrocarbon Exploration and Production

Corrosion Protection for the Oil and Gas Industry