

# Offshore Well Head Platform Design Drawings

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 Practical Engineering Management of Offshore Oil and Gas Platforms  
 Introduction to Offshore Structures  
 Subsea Pipeline Design, Analysis, and Installation  
 Platform Superstructures  
 Handbook of Offshore Engineering (2-volume set)  
 Recommended Practice for Planning, Designing, and Constructing Fixed Offshore Platforms  
 Offshore Structures  
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 Offshore Platform Integration and Floatover Technology  
 Construction of Marine and Offshore Structures, Third Edition  
 Design of Offshore Oil/Gas Platforms Against Ship Impacts  
 Offshore unit and method of installing wellhead platform ...  
 Design Aids of Offshore Structures Under Special Environmental Loads including Fire Resistance  
 Offshore Operation Facilities  
 Recommended Practice for Planning, Designing, and Constructing Fixed Offshore Platforms - Working Stress Design

*Offshore Well Head Platform Design Drawings*

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## **BRAIDEN WILLIS**

**Ship-Shaped Offshore Installations** Springer

This is the fifth volume in a series of publications containing classic papers from the early years of the Offshore Technology Conference (OTC), the world's leading event for the development of offshore resources in the fields of exploration, drilling, production, and environmental protection. The American Society of Civil Engineers (ASCE), through its participation in and support of the OTC, plays a major role in the innovation and evolution of the technologies needed to overcome the challenges facing development of resources in the offshore environment. The years since the first OTC Conference in 1969 have seen the presentation of over 10,000 papers in the various technical disciplines central to offshore development. A few of the civil engineering papers, presented throughout OTC's history, provided innovation in, vision for and lasting impact on the design, construction, or installation of offshore infrastructure. Many have been adopted by design standards worldwide or became an integral part of design software. Some have had influence far beyond the offshore industry, and some have become integral to the design process of onshore structures such as buildings and bridges. Offshore Technology in Civil Engineering: Hall of Fame Papers from the Early Years; Volume Five is a collection of the eight winning papers inducted in 2010 at an award ceremony during OTC in May of 2010. The engineering methods published in these papers have proven their

value through widespread use, permeating codes, standards, guidelines, and engineering software.

*Offshore Technology in Civil Engineering, Volume Five* CRC Press

Offshore Semi-Submersible Platform Engineering presents a primer on the analysis and design of semi-submersible platforms, in particular, while also covering general analysis and design guidelines of offshore compliant platforms. It introduces general structural designs and also examines the details of the various environmental impacts that act upon them, such as fatigue, fire, collisions, and water waves. Features Provides thorough coverage of the dynamic analysis and design of semi-submersible platforms Assists readers through detailed analysis methods using MATLAB® as well as other computer programs used to carry out structural analysis Explains impact loading and dynamic response through numerical analysis and examines the various factors that affect semi-submersibles Presented in a coursework teaching style, the content is explained in a step-by-step manner using color figures, photos, screen shots, and illustrations, thereby enabling students, researchers, and practicing engineers to carry out analysis with ease Offshore Semi-Submersible Platform Engineering serves as a practical guide for upper-level students and graduates of various engineering disciplines, for example, naval architecture, and structural, mechanical, pipeline, and offshore engineering. Further, it can also be used as a reference for practicing professionals, as the book covers a broad range of scholarships and applications.

*Marine Structural Design* Universal-Publishers

For two decades, Ben Gerwick's ability to capture the current state of practice and present it in a straightforward, easily digestible manner has made

Construction of Marine and Offshore Structures the reference of choice for modern civil and maritime construction engineers. The third edition of this perennial bestseller continues to be the most modern and authoritative guide in the field. Based on the author's lifetime of experience, the book also incorporates relevant published information from many sources. Updated and expanded to reflect new technologies, methods, and materials, the book includes new information on topics such as liquefaction of loose sediments, scour and erosion, archaeological concerns, high-performance steel, ultra-high-performance concrete, steel H piles, and damage from sabotage and terrorism. It features coverage of LNG terminals and offshore wind and wave energy structures. Clearly, concisely, and accessibly, this book steers you away from the pitfalls and toward the successful implementation of principles that can bring your marine and offshore projects to life.

*Recommended Practice for Planning, Designing, and Constructing Fixed Offshore Platforms* CRC Press

Offshore Operation Facilities: Equipment and Procedures provides new engineers with the knowledge and methods that will assist them in maximizing efficiency while minimizing cost and helps them prepare for the many operational variables involved in offshore operations. This book clearly presents the working knowledge of subsea operations and demonstrates how to optimize operations offshore. The first half of the book covers the fundamental principles governing offshore engineering structural design, as well as drilling operations, procedures, and equipment. The second part includes common challenges of deep water oil and gas engineering as well as beach (shallow) oil engineering, submarine pipeline engineering, cable engineering, and safety system engineering. Many examples are included from various offshore locations, with special focus on offshore China operations. In the offshore petroleum engineering industry, the ability to maintain a profitable business depends on the efficiency and reliability of the structure, the equipment, and the engineer. Offshore Operation Facilities: Equipment and Procedures assists engineers in meeting consumer demand while maintaining a profitable operation. Comprehensive guide to the latest technology, strategies, and best practices for offshore operations Step-by-step approach for dealing with common challenges such as deepwater and shallow waters Includes submarine pipeline, cable engineering, and safety system engineering Unique examples from various offshore locations around the world, with special focus on offshore China

*Planning and Design of Fixed Offshore Platforms* Elsevier

This book discusses offshore platform integration technology, focusing on the floatover methodology and its applications. It also addresses topics related to safety and cost-effectiveness, as well as ensuring the success of a project through careful planning and established detailed operation procedure/working manuals, which are rarely found in the published literature. Unlike other publications in this area, the book not only includes details of technology development, but also presents real project cases in the discussion to make it more comprehensible. Each topic is illustrated with carefully created sketches to show the complex operation procedures.

**Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms - Load and Resistance Factor Design** Granada

\* Each chapter is written by one or more invited world-renowned experts \* Information provided in handy reference tables and design charts \* Numerous examples demonstrate how the theory outlined in the book is applied in the design of structures Tremendous strides have been made in the last decades in the advancement of offshore exploration and production of minerals. This book fills the need for a practical reference work for the state-of-the-art in offshore engineering. All the basic background material and its application in offshore engineering is covered. Particular emphasis is placed in the application of the theory to practical problems. It includes the practical aspects of the offshore structures with handy design guides, simple description of the various components of the offshore engineering and their functions. The primary purpose of the book is to provide the important practical aspects of offshore engineering without going into the nitty-gritty of the actual detailed design. · Provides all the important practical aspects of ocean engineering without going into the 'nitty-gritty' of actual design details · Simple to use · with handy design guides, references tables and charts · Numerous examples demonstrate how theory is applied in the design of structures

**Fixed Offshore Platforms:Structural Design for Fire Resistance** CRC Press

Written by experienced professionals, this book provides a state-of-the-art account of the construction of offshore concrete structures, It describes the construction process and includes: \*concept definition\*project management,\*detailed design and quality assurance \*simplified analyses and detailed design

*Dynamic Analysis and Design of Offshore Structures* ASCE Publications

The Arabian Gulf oil and gas production reserves have made it one of the world's strategic producers since the early 1960s, with many of the existing platforms stretched beyond their original design life. Advances in drilling technology and reservoir assessments have extended the requirement for the service life of those existing platforms even further. Extension of the life span of an existing platform requires satisfactory reassessment of its various structural components, including piled foundations. The American Petroleum Institute Recommended Practice 2A (API RP2A) is commonly used in the Arabian Gulf for reassessment of existing platforms. The API guidelines have been developed for conditions in the Gulf of Mexico, the waters off Alaska and the Pacific and Atlantic seaboard of the USA. However, the Arabian Gulf conditions are fundamentally different to those encountered in US waters. Hence, there is a need to develop guidelines for reassessment of existing offshore structures to account for the specific conditions of the Arabian Gulf. This thesis performs statistical analyses on databases collected during this research from existing platforms to calibrate relevant load and resistance factors for the required guidelines. The developed guidelines are based on established approaches used in developing international codes and standards such as API RP2A-LRFD. The outcome of this research revolves around the following three main issues: 1. Calibration of resistance factors for axial capacity of piles driven in the carbonate soils 2. Development of open area live loads (OALL) on offshore platforms 3. Effect of extreme storm conditions on the reliability of existing platforms in the Arabian Gulf The outcomes of this research are expected to have a profound influence onreassessment of existing platforms in the Arabian Gulf.

*Offshore Semi-Submersible Platform Engineering* John Wiley & Sons

Using the same data formula as the North Sea Field Development Guide, this book gives all the facts needed to assemble for monitoring and researching offshore activity in Africa, the Mediterranean and the Middle East regions.

*Introduction to Offshore Structures* Gulf Professional Publishing

Offshore platforms have become increasingly important to the oil and gas industry. As part of normal operating activities they are repeatedly visited by heavy vessels. This makes the rig vulnerable to collisions from these vessels. Estimating the possible ship collision damage is important in the safety and integrity assessment of a platform and also for its repair and maintenance. This book deals with the structural behaviour of tubular members of offshore structures subjected to ship collision. It covers both quasi-static and dynamic impact loadings and considers different approaches such as closed form analytical solutions. A relatively sophisticated dynamic experimental modelling and numerical simulation of the impact have also been employed to address the problem. The interaction of the existing axial load in the tubular member and the lateral impact has been thoroughly reviewed. Response of large-scale tubular frames to lateral impacts and the phenomenon of 'dynamic shakedown and response adaptation' have also been addressed. The book is aimed at the practicing professional, but can also serve as a graduate level text for inelastic design of tubular structures.

*Design Aids for Offshore Topside Platforms Under Special Loads* Cambridge University Press

This book attempts to provide readers with an overall idea of various types of offshore platform geometries. It covers the various environmental loads encountered by these structures, a detailed description of the fundamentals of structural dynamics in a class-room style, estimate of damping in offshore structures and their applications in the preliminary analysis and design. Basic concepts of structural dynamics are emphasized through simple illustrative examples and exercises. Design methodologies and guidelines, which are FORM based concepts are explained through a few applied example structures. Each chapter also has tutorials and exercises for self-learning. A dedicated chapter on stochastic dynamics will help the students to extend the basic concepts of structural dynamics to this advanced domain of research. Hydrodynamic response of offshore structures with perforated members is one of the recent research applications, which is found to be one of the effective manner of retrofitting offshore structures. Results of recent research, validated by the experimental and numerical studies are presented to update of the readers. Integration of the concepts of structural dynamics with the FORM-evolved design of offshore structures is a unique approach used in this book. The book will prove useful to the practicing and consulting offshore structural engineers, as also to students and researchers working in the field.

*Design of Offshore Concrete Structures* Gulf Professional Publishing

With most of the easy gas and oil reserves discovered and prices rebounding, companies are now drilling far offshore in extreme weather condition environments. As deepwater wells are drilled to greater depths, engineers and designers are confronted with new problems such as water depth, weather conditions, ocean currents, equipment reliability, and well accessibility. Offshore Structure Design, Construction and Maintenance covers all types of offshore structures and platforms employed worldwide. The ultimate reference for selecting, operating and maintaining offshore structures, this book provides a road map for designing structures which will stand up even in the harshest environments. The selection of the proper type of offshore structure is discussed from a technical and economic point of view. The design procedure for the fixed offshore structure will be presented and how to review the design to reach the optimum solution. Nonlinear analysis (Push over) analysis will be presented as a new technique to design and assess the existing structure. Pile design and tubular joint with the effect of fatigue loading will be presented also from a theoretical and a practical point of view. With this book in hand, engineers receive the most up-to-date methods for performing a structural life cycle analysis; implement maintenance plans for topsides and jackets, using non destructive testing. Under water inspection is discussed for hundreds of platforms in detail. Advanced repair methodology for scour, marine growth and damaged or deteriorating members are discussed. Risk based under water inspection techniques are covered from a practical pint of view. In addition, the book will be supported by an online modeling and simulation program with will allow designers to save time and money by verifying assumptions online. One stop guide to offshore structure design and analysis Easy to understand methods for structural life cycle analysis Expert advice for designing offshore platforms for all types of environments Save time and money by verifying designs online

*Elements of Oil and Gas Well Tubular Design* Gulf Professional Publishing

This book provides detailed analysis methods and design guidelines for fire resistance, a vital consideration for offshore processing and production platforms. Recent advancements in the selection of various geometric structural forms for deep-water oil exploration and production require a detailed understanding of the design of offshore structures under special loads. Focusing on a relatively new aspect of offshore engineering, the book offers essential teaching material, illustrating and explaining the concepts discussed through many tutorials. It creates a basis for designing new courses for students of ocean engineering and naval architecture, civil engineering, and applied mechanics at both undergraduate and graduate levels. As such, its content can be used for self-study or as a text in structured courses and professional development programs.

*Calibration of Deterministic Parameters: Reassessment of Offshore Platforms in the Arabian Gulf* Gulf Publishing

Marine Structural Design, Second Edition, is a wide-ranging, practical guide to marine structural analysis and design, describing in detail the application of modern structural engineering principles to marine and offshore structures. Organized in five parts, the book covers basic structural design principles, strength, fatigue and fracture, and reliability and risk assessment, providing all the knowledge needed for limit-state design and re-assessment of existing structures. Updates to this edition include new chapters on structural health monitoring and risk-based decision-making, arctic marine structural development, and the addition of new LNG ship topics, including composite materials and structures, uncertainty analysis, and green ship concepts. Provides the structural design principles, background theory, and know-how needed for marine and offshore structural design by analysis Covers strength, fatigue and fracture, reliability, and risk assessment together in one resource, emphasizing practical considerations and applications Updates to this edition include new chapters on structural health monitoring and risk-based decision making, and new content on arctic marine structural design

*Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms - Load and Resistance Factor Design* National Academies Press

A guide to the analysis and design of compliant offshore structures that highlights a new generation of platforms Offshore Compliant Platforms provides an authoritative guideto the analysis and design of compliant offshore structures and puts the focus on a new generation of platforms such as: triceratops, Buoyant Leg Storage and Regasification platforms. Whilst the authors – noted experts on the topic – include basic information on the

conceptual development of conventional platforms, the book presents detailed descriptions of the design and development of new deep-water platforms. The book describes the preliminary design of triceratops in ultra-deep waters and presents a detailed analysis of environmental loads that are inherent in offshore locations such as wave, wind and current. The new methodology for the dynamic analysis of triceratops under ice loads, predominantly in ice-covered regions, is also examined with detailed parametric studies. In addition, the book covers the structural geometry and the various methods of analysis for assessing the performance of any other similar offshore platform under the special loads. A discussion of the fatigue analysis and service life prediction is also included. This important book:

- Includes the analysis and design of compliant offshore structures with a focus on a new generation of platforms
- Examines the preliminary design of triceratops in ultra-deep waters
- Covers an analysis of environmental loads that are inherent in offshore locations such as wave, wind and current
- Reviews the structural geometry and various methods of analysis for assessing the performance of any other similar offshore platform under special loads
- Discusses fatigue analysis and service life prediction

Written for engineers and researchers across engineering including civil, mechanical, structural, offshore, ocean and naval architecture, *Offshore Compliant Platforms* fills the need for a guide to new offshore platforms that provides an understanding of the behaviour of these structures under different loading conditions.

**The World Offshore Field Development Guide** Gulf Professional Publishing

This book examines the fire-resistant design of fixed offshore platforms. It describes the required loading, load combinations, strength and stability checks for structural elements. It also explains the design of tubular joints, fatigue analysis, dynamic analysis, and impact analysis, Fire resistance, fire, explosion and blast effect analysis, fire protection materials, and safety.

**Offshore Structures** CRC Press

*Offshore Structures: Design, Construction and Maintenance, Second Edition* covers all types of offshore structures and platforms employed worldwide. As the ultimate reference for selecting, operating and maintaining offshore structures, this book provides a roadmap for designing structures which will stand up even in the harshest environments. Subsea pipeline design and installation is also covered in this edition, as is the selection of the proper type of offshore structure, the design procedure for the fixed offshore structure, nonlinear analysis (Push over) as a new technique to design and assess the existing structure, and more. With this book in hand, engineers will have the most up-to-date methods for performing a structural lifecycle analysis, implementing maintenance plans for topsides and jackets and using non-destructive testing. Provides a one-stop guide to offshore structure design and analysis Presents easy-to-understand methods for structural lifecycle analysis Contains expert advice for designing offshore platforms for all types of environments

*Offshore Structures* Springer

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.

**Introduction to Permanent Plug and Abandonment of Wells** Springer Nature

*Practical Engineering Management of Offshore Oil and Gas Platforms* delivers the first must-have content to the multiple engineering managers and clients devoted to the design, equipment, and operations of offshore oil and gas platforms. Concepts explaining how to interact with the various task forces, getting through bid proposals, and how to maintain project control are all covered in the necessary training reference. Relevant equipment and rule of thumb techniques to calculate critical features on the design of the platform are also covered, including tank capacities and motor power, along with how to consistently change water, oil, and gas production profiles over the course of a project. The book helps offshore oil and gas operators and engineers gain practical understanding of the multiple disciplines involved in offshore oil and gas projects using experience-based approaches and lessons learned. Delivers the first ever must-have content to the multiple engineering managers and clients devoted to the design, equipment, and operations of offshore oil and gas platforms Contains rules of thumb techniques to calculate critical features on the design of the platform Includes practical checklists for project estimates and cost evaluation for effective project execution in budgeting and scheduling Helps offshore oil and gas operators and engineers gain practical understanding of the multiple disciplines involved in offshore oil and gas projects using experience-based approaches and lessons learned

**Design and Installation of Subsea Systems** CRC Press

*Elements of Oil and Gas Well Tubular Design* offers insight into the complexities of oil well casing and tubing design. The book's intent is to be sufficiently detailed on the tubular-oriented application of the principles of solid mechanics while at the same time providing readers with key equations pertinent to design. It addresses the fundamentals of tubular design theory, bridging the gap between theory and field operation. Filled with derivations and detailed solutions to well design examples, *Elements of Oil and Gas Well Tubular Design* provides the well designer with sound engineering principles applicable to today's oil and gas wells. Understand engineering mechanics for oil well casing and tubing design with emphasis on derivation, limitations, and application of fundamental equations Grasp well tubular design from one unified source with underlying concepts of stress, strain, and material constitution Quantify practice with detailed well design worked examples amenable to quality check with commercial software