Reliability Centered Maintenance Second Edition

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Reliability Centered Maintenance Using ... RCM Blitz - Douglas J. Plucknette 2009-04-16
Work alongside the author as he walks you through his step-by step method for applying Reliability Centered Maintenance, RCM Blitz, that focuses on manufacturing assets. RCM Blitz is a 5-part process, with an easy to follow flow diagram, that includes:1. Up-Front Tasks - Those tasks required to ensure the success of the RCM Facilitators and Team.2. Probability and Consequence - The steps needed to build the groundwork for understanding the importance of each individual failure mode and developing sound methods to prioritize RCM tasks.3. Functions and Functional Failures - The to successful RCM analysis is understanding the importance of addressing maintenance at the functional failure level.4. FMECA - The heart and soul of Reliability Centered Maintenance, this is where the work gets done, identifying failure modes, describing failure effects and developing tasks.5. Follow-Up Tasks - These tasks are designed to help the team quickly move forward and drive the implementation of the RCM tasks. Follow-up is just as important as the analysis itself and like everything else it has a process.
Reliable Maintenance Planning, Estimating, and Scheduling - Ralph Peters 2014-11-19
Written specifically for the oil and gas industry, Reliable Maintenance Planning, Estimating, and Scheduling provides maintenance managers and engineers with the tools and techniques to create a manageable maintenance program that will save money and prevent costly facility shutdowns. The ABCs of work identification, planning, prioritization, scheduling, and execution are explained. The objective is to provide the capacity to identify, select and apply maintenance interventions that assure an effective maintenance management, while maximizing equipment performance, value creation and opportune and effective decision making. The book provides a pre- and post- self-assessment that will allow for measure competency improvement. Maintenance Managers and Engineers receive an expert guide for developing detailed actions including repairs, alterations, and preventative maintenance. The nuts and bolts of the planning, estimating, and scheduling process for oil and gas facilities Step-by-step maintenance guide will provide long-term, results-based operational services Case studies based on the oil and gas industry
Reliability Centered Maintenance (RCM3) - Marius Basson 2019-01-10
The popular RCMII methodology has been around since the late '90s, but it was what professionals call a consequence-based approach. This work represents a revision to that bestselling work, by John Moubray, with more modern thinking, an emphasis on a risk-based methodology, and alignment with International ISO standards (55000 and 31000). The result is a more holistic, integrated, and rigorous way for developing asset care and risk-mitigating strategies for physical assets. Since the release of the ISO 31000 and ISO 55000 Standards for Risk Management and Asset Management respectively, Aladon developed RCM3, a risk-based RCM methodology that places managing the risk and reliability of physical assets mainstream with other business management systems in an organization. RCM3 fully complies and exceeds the requirements of the SAEJA 1011 Standard and fully aligns with the frameworks of the ISO Standards. The new risk-based focus of RCM3 features the following principles: * The proactive management of physical and economic risks. * Updated approach for testing and managing of protective systems. * Based on the requirements of the fourth industrial revolution (Industry 4.0) and its challenges. * Covers new expectations and new maintenance techniques for fourth-generation maintenance. * Places reliability & risk management mainstream with organizational objectives and management systems. * Aligned and integrated with International ISO Standards for Physical Asset Management and Risk Management (ISO 55000 & ISO 31000). * Now part of an integrated asset strategy for full life-cycle management of physical assets.

Effective Maintenance Management - V. Narayan 2004
Utilize your assets effectively, safely, and profitably.
Rcm Guide Reliability-Centered Maintenance Guide - National Aeronautics and Space Administration 2008-09-30
Buy the paperback, get Kindle eBook FREE using MATCHBOOK. go to www.usgovpub.com to learn how NASA's book on Reliability-Centered Maintenance (RCM) is the Gold Standard as far as I am concerned. I have worked in facility design, construction and maintenance for over 40 years and this is the resource I turn to on the subject. Rather than following a haphazard, hit-and-miss approach to facility maintenance, NASA takes a common-sense approach that is methodical and not overblown. This is the way to go if you are concerned about budget AND reliability /availability. Because - let's face it - everything has a cost and facilities budgets can only go so far. There is always a list of projects on backlog waiting for funding. This book shows how to prioritize those projects and make the best use of limited resources. Variations of RCM are employed by thousands of public and private organizations world-wide to address a host of reliability issues in order to improve Overall Equipment Effectiveness (OEE) while controlling the Life-Cycle Cost (LCC) inherent with Asset Management and Facility Stewardship. Why buy a book you can download for free? We print this book so you don't have to. First you gotta find a good clean (legible) copy and make sure it's the latest version (not always easy). Some documents found on the web are missing some pages or the image quality is so poor, they are difficult to read. We look over each document carefully and replace poor quality images by going back to the original source document. We proof each document to make sure it's all there - including all changes. If you find a good copy, you could print it using a network printer you share with 100 other people (typically its either out of paper or toner). If it's just a 10-page document, no problem, but if it's 250-pages, you will need to punch 3 holes in all those pages and put it in a 3-ring binder. Takes at least an hour. It's much more cost-effective to just order the latest version from Amazon.com This book includes original commentary which is copyright material. Note that government documents are in the public domain. We print these large documents as a service so you don't have to. The books are compact, tightly-bound, full-size (8 1⁄2 by 11 inches), with large text and glossy covers. 4th Watch Publishing Co. is a SDVOSB. If you like the service we provide, please leave positive review on Amazon.com.
www.USGOVPUB.com
Reliability Centered Maintenance – Reengineered - Jesus R. Sifonte 2017-05-25
Reliability Centered Maintenance – Reengineered: Practical Optimization of the RCM Process with RCM-R® provides an optimized approach to a well-established and highly successful method used for determining failure management policies for physical assets. It makes the original method that was developed to enhance flight safety far more useful in a broad range of industries where asset criticality ranges from high to low. RCM-R® is focused on the science of failures and what must be done to enable long-term sustainably reliable operations. If used correctly, RCM-R® is the first step in delivering fewer breakdowns, more productive capacity, lower costs, safer operations and improved environmental performance. Maintenance has a huge impact on most businesses whether its presence is felt or not. RCM-R® ensures that the right work is done to guarantee there are as few nasty surprises as possible that can harm the business in any way. RCM-R® was developed to leverage on RCM’s original success at delivering that effectiveness while addressing the concerns of the industrial market. RCM-R® addresses the RCM method and shortfalls in its application -- It modifies the method to consider asset and even failure mode criticality so that rigor is applied only where it is truly needed. It removes (within reason) the sources of concern about RCM being overly rigorous and too labor intensive without compromising on its ability to deliver a tailored failure management

program for physical assets sensitive to their operational context and application. RCM-R® also provides its practitioners with standard based guidance for determining meaningful failure modes and causes facilitating their analysis for optimum outcome. Includes extensive review of the well proven RCM method and what is needed to make it successful in the industrial environment Links important elements of the RCM method with relevant International Standards for risk management and failure management Enhances RCM with increased emphasis on statistical analysis, bringing it squarely into the realm of Evidence Based Asset Management Includes extensive, experience based advice on implementing and sustaining RCM based failure management programs

Rules of Thumb for Maintenance and Reliability Engineers - Ricky Smith 2011-03-31

Rules of Thumb for Maintenance and Reliability Engineers will give the engineer the “have to have” information. It will help instill knowledge on a daily basis, to do his or her job and to maintain and assure reliable equipment to help reduce costs. This book will be an easy reference for engineers and managers needing immediate solutions to everyday problems. Most civil, mechanical, and electrical engineers will face issues relating to maintenance and reliability, at some point in their jobs. This will become their “go to” book. Not an oversized handbook or a theoretical treatise, but a handy collection of graphs, charts, calculations, tables, curves, and explanations, basic “rules of thumb” that any engineer working with equipment will need for basic maintenance and reliability of that equipment. • Access to quick information which will help in day to day and long term engineering solutions in reliability and maintenance • Listing of short articles to help assist engineers in resolving problems they face • Written by two of the top experts in the country

Reliability Centered Maintenance (RCM) - Neil Bloom 2005-12-22

A properly implemented and managed RCM program can save millions in unscheduled maintenance and breakdowns. However, many have found the process daunting. Written by an expert with over 30 years of experience, this book introduces innovative approaches to simplify the RCM process such as: single vs. multiple failure analysis, hidden failures analysis, potentially critical components analysis, run-to-failure and the difference between redundant, standby, and backup functions. Included are real life examples of flawed preventive maintenance programs and how they led to disasters that could have easily been avoided. Also illustrated in detail, with real-life examples, is the step-by-step process for developing, implementing, and maintaining a premier classical RCM program. Senior management, middle management, supervisors, and craftsmen/technicians responsible for plant safety and reliability will find this book to be invaluable as a means for establishing a first class preventive maintenance program.

Reliability-centred Maintenance - John Moubray 1997

Reliability-centred Maintenance is a process used to determine - systematically and scientifically - what must be done to ensure that physical assets continue to do what their users want them to do. Widely recognised by maintenance professionals as the most cost-effective way to develop world-class maintenance strategies, RCM leads to rapid, sustained and substantial improvements in plant availability and reliability, product quality, safety and environmental integrity. The author and his associates have helped users to apply RCM and its more modern derivative, RCM2, on more than 600 sites in 32 countries. These sites include all types of manufacturing (especially automobile, steel, paper, petrochemical, pharmaceutical and food manufacturing, utilities (water, gas and electricity), armed forces, building services, mining telecommunications and transport. This book summarises this experience in the form of an authoritative and completely practical description of what RCM2 is and how it should be applied. The second edition has been comprehensively revised to incorporate the most recent developments in this field. It includes more than 100 pages of new material on condition monitoring, the analysis of functions and failures, human error, the management of risk, failure-finding and the measurement of maintenance performance. This book will be of immense value to maintenance managers, and to anyone else concerned with the reliability, productivity, safety and environmental integrity of physical assets. Its straightforward, plant-based approach makes the book especially well suited to use in centres of higher education. John Moubray, BSc (Mech Eng), spent his early career developing and implementing maintenance management systems, first as a plant engineer then as a consultant. In the early 1980s, he began to focus on the industrial application of RCM under the guidance of the late F Stanley Nowlan. In 1986, he set up Aladon Ltd, a consulting and training company based in Lutterworth, UK. He is currently managing director of Aladon, which specialises exclusively in the development of reliability-centre management processes and their application to physical assets.

Wkbk to Accompany Maintenance and Reliability Best Practices - Industrial Press, Incorporated 2019-12-17

RCM--Gateway to World Class Maintenance - Anthony M. Smith 2003-12-05

Reliability-Centered Maintenance provides valuable insights into current preventive maintenance practices and issues, while explaining how a transition from the current "preserve equipment" to "preserve function" mindset is the key ingredient in a maintenance optimization strategy. This book defines the four principal features of RCM and describes the nine essential steps to achieving a successful RCM program. There is an easy to follow example illustrating the Classical RCM systems analysis process using the water treatment system for a swimming pool. As well as the use of software in the system analysis process, making a specific recommendation on a software product to use. Additionally, this new edition possesses an appendix devoted to discussing an economic model that has been used successfully to decide the most cost effective use of maintenance. Top Level managers, engineers, and especially technicians who rely on PM programs in their plant operations can't afford to miss this inclusive guide to Reliability-Centered Maintenance. Includes detailed instructions for implementing and sustaining an RCM program for extremely cost effective manufacturing Presents seven real-world cross-industry RCM sucess case studies that have profited from this plan Provides essential information on how RCM focuses your maintenance organization to become a recognized "center for profit" Offers over 35 accumulated years of the authors' experiences in Lessons Learned for the proper use of RCM (and pitfalls to avoid)

Autonomous Maintenance in Seven Steps - Fumio Gotoh 2020-06-30

Autonomous maintenance is an especially important pillar of Total Productive Maintenance (TPM) because it enlists the intelligence and skills of the people who are most familiar with factory machines-- equipment operators. Operators learn the maintenance skills they need to know through a seven-step autonomous maintenance program. Most companies in the West stop after implementing the first few steps and never realize the full benefits of autonomous maintenance. This book contains comprehensive coverage of all seven steps--not just the first three or four. It includes: An overview of autonomous maintenance features and checklists for step audits to certify team achievement at each AM step. TPM basics such as the six big losses, overall equipment effectiveness (OEE), causes of losses, and six major TPM activities.An implementation plan for TPM and five countermeasures for achieving zero breakdowns.Useful guidelines and case studies in applying AM to manual work such as assembly, inspection, and material handling.Integrates examples from Toyota, Asai Glass, Bridgestone, Hitachi, and other top companies. By treating machines as partners and taking responsibility for them, you get machines that you can rely on and help maintain an energized and responsive workplace. For companies that are serious about taking autonomous maintenance beyond mere cleaning programs, this is an essential sourcebook and implementation support.

MARE-WINT - Wiesław Ostachowicz 2016-08-30

This book provides a holistic, interdisciplinary overview of offshore wind energy, and is a must-read for advanced researchers. Topics, from the design and analysis of future turbines, to the decommissioning of wind farms, are covered. The scope of the work ranges from analytical, numerical and experimental advancements in structural and fluid mechanics, to novel developments in risk, safety & reliability engineering for offshore wind.The core objective of the current work is to make offshore wind energy more competitive, by improving the reliability, and operations and maintenance (O&M) strategies of wind turbines. The research was carried out under the auspices of the EU-funded project, MARE-WINT. The project provided a unique opportunity for a group of researchers to work closely together, undergo multidisciplinary doctoral training, and conduct research in the area of offshore wind energy generation. Contributions from expert, external authors are also included, and the complete work seeks to bridge the gap between research and a rapidly-evolving industry.

Complex System Maintenance Handbook - Khairy Ahmed Helmy Kobbacy 2008-04-15

This utterly comprehensive work is thought to be the first to integrate the literature on the physics of the failure of complex systems such as hospitals, banks and transport networks. It has chapters on particular aspects of maintenance written by internationally-renowned researchers and practitioners. This book will interest maintenance engineers and

managers in industry as well as researchers and graduate students in maintenance, industrial engineering and applied mathematics.

Maintenance, Replacement, and Reliability - Andrew K. S. Jardine 2021-09-15

Since the publication of the second edition in 2013, there has been an increasing interest in asset management globally, as evidenced by a series of international standards on asset management systems, to achieve excellence in asset management. This cannot be achieved without high-quality data and the tools for data interpretation. The importance of such requirements is widely recognized by industry. The third edition of this textbook focuses on tools for physical asset management decisions that are data driven. It also uses a theoretical foundation to the tools (mathematical models) that can be used to optimize a variety of key maintenance/replacement/reliability decisions. Problem sets with answers are provided at the end of each chapter. Also available is an extensive set of PowerPoint slides and a solutions manual upon request with qualified textbook adoptions. This new edition can be used in undergraduate or post-graduate courses on physical asset management.

The RCM Solution - Nancy Regan 2012

This book is a "how-to" generic approach with minimal theory by a well-known and very active participant in the leading maintenance organizations and conferences. The book offers a fundamental, common sense understanding of RCM. A significant portion is dedicated to SAE JA1011 compliant RCM. The book presents detailed processes that can be used when RCM is not applicable and presents a total solution for implementing RCM for any organization. The primary market for this book is anyone responsible for Physical Asset Management within an organization, at any level of authority. The material will be just as valuable to an organization's maintenance manager as it would to the organization's leader. The book's principles will be presented generically so they are equally applicable to any industry in the world that has assets to care for - military, manufacturing, mining, plastics, power generation, etc. There is also a secondary market for this book at colleges and universities teaching reliability engineering.

Complete Guide to Preventive and Predictive Maintenance - Joel Levitt 2003

A culmination of 15 years of research, teaching, and consulting, this book shares the best practices, mistakes, victories, and essential steps for success which the author has gleaned from working with countless organizations. Unlike other books that only focus on the engineering issues (task lists) or management issues (CMMS), this in-depth resource is the first to give true emphasize to the four aspects of success in preventive maintenance systems--engineering, management, economic, and psychological -- thereby enabling readers to have a balanced view and understanding of what is happening in their organizations. Additionally, it blends concrete actionable steps and structures with the theory behind the steps.

Gas and Oil Reliability Engineering - Eduardo Calixto 2016-06-22

Gas and Oil Reliability Engineering: Modeling and Analysis, Second Edition, provides the latest tactics and processes that can be used in oil and gas markets to improve reliability knowledge and reduce costs to stay competitive, especially while oil prices are low. Updated with relevant analysis and case studies covering equipment for both onshore and offshore operations, this reference provides the engineer and manager with more information on lifetime data analysis (LDA), safety integrity levels (SILs), and asset management. New chapters on safety, more coverage on the latest software, and techniques such as ReBi (Reliability-Based Inspection), ReGBI (Reliability Growth-Based Inspection), RCM (Reliability Centered Maintenance), and LDA (Lifetime Data Analysis), and asset integrity management, make the book a critical resource that will arm engineers and managers with the basic reliability principles and standard concepts that are necessary to explain their use for reliability assurance for the oil and gas industry. Provides the latest tactics and processes that can be used in oil and gas markets to improve reliability knowledge and reduce costs Presents practical knowledge with over 20 new internationally-based case studies covering BOPs, offshore platforms, pipelines, valves, and subsea equipment from various locations, such as Australia, the Middle East, and Asia Contains expanded explanations of reliability skills with a new chapter on asset integrity management, relevant software, and techniques training, such as THERP, ASEP, RBI, FMEA, and RAMS

An Introduction to Predictive Maintenance - R. Keith Mobley 2002-10-24

This second edition of An Introduction to Predictive Maintenance helps plant, process, maintenance and reliability managers and engineers to develop and implement a comprehensive maintenance management program, providing proven strategies for regularly monitoring critical process equipment and systems, predicting machine failures, and scheduling maintenance accordingly. Since the publication of the first edition in 1990, there have been many changes in both technology and methodology, including financial implications, the role of a maintenance organization, predictive maintenance techniques, various analyses, and maintenance of the program itself. This revision includes a complete update of the applicable chapters from the first edition as well as six additional chapters outlining the most recent information available. Having already been implemented and maintained successfully in hundreds of manufacturing and process plants worldwide, the practices detailed in this second edition of An Introduction to Predictive Maintenance will save plants and corporations, as well as U.S. industry as a whole, billions of dollars by minimizing unexpected equipment failures and its resultant high maintenance cost while increasing productivity. A comprehensive introduction to a system of monitoring critical industrial equipment Optimize the availability of process machinery and greatly reduce the cost of maintenance Provides the means to improve product quality, productivity and profitability of manufacturing and production plants

Maintenance, Replacement, and Reliability - Andrew K.S. Jardine 2013-05-28

A completely revised and updated edition of a bestseller, Maintenance, Replacement, and Reliability: Theory and Applications, Second Edition supplies the tools needed for making data-driven physical asset management decisions. The well-received first edition quickly became a mainstay for professors, students, and professionals, with its clear prese

Maintenance Fundamentals - R. Keith Mobley 2011-03-15

No matter which industry a company is a part of, its profitability, like its products, is driven by the reliability and performance of its plant(s). The fundamentals for maintenance found in this volume are applicable to a multitude of industries: power, process, materials, manufacturing, transportation, communication, and many others. This book shows the engineer how to select, install, maintain, and troubleshoot critical plant machinery, equipment, and systems. NEW to this edition: New material includes a chapter on inspections, providing practical guidelines for effective visual inspections, the key to effective preventive maintenance. Also included in the revision will be multiple chapters on equipment, such as pumps, compressors, and fans. Provides practical knowledge about plant machinery, equipment, and systems for the new hire or the veteran engineer Covers a wide array of topics, from shaft alignment and bearings to rotor balancing and flexible intermediate drives Delivers must-have information to the engineer which he/she will use on a daily basis, in day-to-day activities, that will affect the reliability and profitability of the plant

Maintenance and Reliability Best Practices - Ramesh Gulati 2009

Introduction Vision, Mission and Strategy Maintenance Basics Planning and Scheduling Parts, Materials and Tools Management Reliability Operational Reliability M&R Tools Performance Measure - Metrics Human Side of M&R Best Practices/Benchmarking Maintenance Excellence Appendices

Uptime - John D. Campbell 2015-07-28

Uptime describes the combination of activities that deliver fewer breakdowns, improved productive capacity, lower costs, and better environmental performance. The bestselling second edition of Uptime has been used as a textbook on maintenance management in several postsecondary institutions and by many companies as the model framework for their maintenance management programs. Following in the tradition of its bestselling predecessors, Uptime: Strategies for Excellence in Maintenance Management, Third Edition explains how to deal with increasingly complex technologies, such as mobile and cloud computing, to support maintenance departments and set the stage for compliance with international standards for asset management. This updated edition reflects a far broader and deeper wealth of experience and knowledge. In addition, it restructures its previous model of excellence slightly to align what must be done more closely with how to do it. The book provides a strategy for developing and executing improvement plans that work well with the new values prevalent in today's workforce. It also explains how you can use seemingly competing improvement tools to complement and enhance each other. This edition also highlights action you can take to compensate for the gradual loss of skills in the current workforce as "baby boomers" retire.

Data Driven Energy Centered Maintenance - Fadi Alshakhshir 2021-07-20

Over recent years, many new technologies have been introduced to drive

the digital transformation in the building maintenance industry. The current trend in digital evolution involves data-driven decision making which opens new opportunities for an energy centered maintenance model. Artificial Intelligence and Machine Learning are helping the maintenance team to get to the next level of maintenance intelligence to provide real-time early warning of abnormal equipment performance. This edition follows the same methodology as the First. It provides detailed descriptions of the latest technologies associated with Artificial Intelligence and Machine Learning which enable data-driven decision-making processes about the equipment's operation and maintenance. Technical topics discussed in the book include: Different Maintenance Types and The Need for Energy Centered Maintenance The Centered Maintenance Model Energy Centered Maintenance Process Measures of Equipment and Maintenance Efficiency and Effectiveness Data-Driven Energy Centered Maintenance Model: Digitally Enabled Energy Centered Maintenance Tasks Artificial Intelligence and Machine Learning in Energy Centered Maintenance Model Capabilities and Analytics Rules Building Management System Schematics The book contains a detailed description of the digital transformation process of most of the maintenance inspection tasks as they move away from being manually triggered. The book is aimed at building operators as well as those building automation companies who are working continuously to digitalize building operation and maintenance procedures. The benefits are reductions in the equipment failure rate, improvements in equipment reliability, increases in equipment efficiency and extended equipment lifespan.

Reliability Centered Maintenance - James Gehris 2015-12-02

John Moubray's 1997 book Reliability Centered Maintenance outlined a comprehensive collection of the core principles and tenets of reliability centered maintenance-RCM. Originally developed in the 1970s, RCM has since been adopted by major industries, including the United States military and the aviation industry. Nevertheless, while Moubray's RCM2 provides an excellent academic description of topics associated with RCM, there are a number of important questions and topics that have been left unaddressed in print. In Reliability Centered Maintenance-Unraveling the Mysteries, author James Gehris offers a diligent and comprehensive expansion and companion that provides questions beyond the traditional RCM questions and definitions. With over thirty years of experience as a US Marine Corps maintenance officer using RCM concepts and approaches, Gehris provides a roadmap to help ensure that any RCM analyses are properly conducted and comply with the SAE JA1011 standard for RCM.

Reliability, Maintainability and Risk - David J. Smith 2011-06-29

Reliability, Maintainability and Risk: Practical Methods for Engineers, Eighth Edition, discusses tools and techniques for reliable and safe engineering, and for optimizing maintenance strategies. It emphasizes the importance of using reliability techniques to identify and eliminate potential failures early in the design cycle. The focus is on techniques known as RAMS (reliability, availability, maintainability, and safety-integrity). The book is organized into five parts. Part 1 on reliability parameters and costs traces the history of reliability and safety technology and presents a cost-effective approach to quality, reliability, and safety. Part 2 deals with the interpretation of failure rates, while Part 3 focuses on the prediction of reliability and risk. Part 4 discusses design and assurance techniques; review and testing techniques; reliability growth modeling; field data collection and feedback; predicting and demonstrating repair times; quantified reliability maintenance; and systematic failures. Part 5 deals with legal, management and safety issues, such as project management, product liability, and safety legislation. 8th edition of this core reference for engineers who deal with the design or operation of any safety critical systems, processes or operations Answers the question: how can a defect that costs less than $1000 dollars to identify at the process design stage be prevented from escalating to a $100,000 field defect, or a $1m+ catastrophe Revised throughout, with new examples, and standards, including must have material on the new edition of global functional safety standard IEC 61508, which launches in 2010

Risk Assessment Of Power Systems - Wenyuan Li 2005

"Risk Assessment of Power Systems closes the gap between risk theory and real-world application. As a leading authority in power system risk evaluation for more than fifteen years and the author of a considerable number of papers and more than fifty technical reports on power system risk and reliability evaluation, Wenyuan Li is uniquely qualified to present this material. Following the models and methods developed from the author's hands-on experience, readers learn how to evaluate power system risk in planning, design, operations, and maintenance activities to keep risk at targeted levels."--BOOK JACKET.

Reliability Centered Maintenance Using... - Douglas J. Plucknette 2011-11-21

Reliability-centered Maintenance - Anthony M. Smith 1993

Preventive maintenance (PM) programmes are used in manufacturing plants to help avoid or mitigate the impact of operational failures. This book discusses and evaluates current PM practices, and shows how the reliability-centred maintenance (BCM) method can promote cost-effective manufacturing.

Major Process Equipment Maintenance and Repair - Heinz P. Bloch 1997-01-10

This updated edition is an invaluable source of practical cost-effective maintenance, repair, installation, and field verification procedures for machinery engineers. It is filled with step-by-step instructions and quick-reference checklists that describe preventive and predictive maintenance for major process units such as vertical, horizontal, reciprocating, and liquid ring vacuum pumps, fans and blowers, compressors, turboexpanders, turbines, and more. Also included are sections on machinery protection, storage, lubrication, and periodic monitoring. A new section examines centrifugal pumps and explains how and why they continue to fail. More new information focuses on maintenance for aircraft derivative gas turbines. This revised edition gives special attention throughout to maintenance and repair procedures needed to ensure efficiency, performance, and long life.

Process Risk and Reliability Management - Ian Sutton 2014-09-11

In the last twenty years considerable progress has been made in process risk and reliability management, particularly in regard to regulatory compliance. Many companies are now looking to go beyond mere compliance; they are expanding their process safety management (PSM) programs to improve performance not just in safety, but also in environmental compliance, quality control and overall profitability. Techniques and principles are illustrated with numerous examples from chemical plants, refineries, transportation, pipelines and offshore oil and gas. This book helps executives, managers and technical professionals achieve not only their current PSM goals, but also to make the transition to a broader operational integrity strategy. The book focuses on the energy and process industries- from refineries, to pipelines, chemical plants, transportation, energy and offshore facilities. The techniques described in the book can also be applied to a wide range of non-process industries. The book is both thorough and practical. It discusses theoretical principles in a wide variety of areas such as management of change, risk analysis and incident investigation, and then goes on to show how these principles work in practice, either in the design office or in an operating facility. The second edition has been expanded, revised and updated and many new sections have been added including: The impact of resource limitations, a review of some recent major incidents, the value of story-telling as a means of conveying process safety values and principles, and the impact of the proposed changes to the OSHA PSM standard. Learn how to develop a thorough and complete process safety management program. Go beyond traditional hazards analysis and risk management programs to explore a company's entire range of procedures, processes and management issues. Understand how to develop a culture of process safety and operational excellence that goes beyond simple rule compliance. Develop process safety programs for both onshore facilities (EPA, OSHA) and offshore platforms and rigs (BSEE) and to meet Safety Case requirements.

Lubrication and Maintenance of Industrial Machinery - Robert M. Gresham 2008-10-24

A-Z Guide for Maximum Cost Reduction and Increased Equipment Reliability To remain globally competitive, today's manufacturing operations have greatly improved, but there is one last link in the advancement evolution. The reliability of manufacturing equipment must be improved in order to maximize the productive life of the equipment, eliminate unscheduled shut downs, and reduce operating costs. These are key components to maintaining a smooth work flow and a competitive edge. Written by peer-recognized industry experts, Lubrication and Maintenance of Industrial Machinery: Best Practices and Reliability provides the necessary tools for maintenance professionals who are responsible for the overall operational functions. With chapters culled from the second edition of the Handbook of Lubrication and Tribology, Volume 1 and a new introductory chapter, this more specialized and focused work supplies critical lubrication information that can be used on a daily basis to achieve greater machine reliability. Incorporating lean methods, this resource can be used by everyone involved in the

production process, from supervisors to floor personnel. Recommended for STLE’s Certified Lubrication Specialist® Certification In addition to lubrication program development and scheduling, this volume also covers critical elements of the reliability equation, such as: Deterioration detection and measurement Lubrication cleanliness and contamination control Environmental implications of various lubricants Energy conservation Storage and handling Recycling of used oils This book fills a niche by specifically and comprehensively focusing on lubrication as part of the overall maintenance program. Under the editorial guidance of two of the most respected names in the field, this seminal work is destined to become an industry standard.

Maintenance and Operational Reliability - Donald H. Nyman 2021-09
The quest for reliability is long overdue! In the case of many operations, realization of sustained reliability is still a work in progress. Very few organizations have completed the journey to world-class reliability. The vast majority still operate within a reactive culture, allowing response to repetitive failures to consume an excessive proportion of already limited maintenance resources, and leaving too few for performance of any proactive activities. In today's competitive international environment, enterprise survival is a battle of the fittest. To survive, organizations must achieve "world-class" stature, characterized by wellness, readiness, and application required for a company to successfully compete globally. That's why Maintenance and Operational Reliability is so important. This work is organized by the foundation and 5 Pillars of Maintenance/Reliability Excellence, plus 24 Building Blocks, as depicted throughout the book. This pillar graphic shows the functions, management techniques, systems, information sources and performance management vital to the maintenance and reliability process, and also serves as an important visual aid for the education of the entire organization. So, how is the ultimate, but challenging reliability goal to be achieved? Are you prepared to manage, support, process, and interpret the magnitude of information in real time, critical to making the right business decisions to achieve a competitive advantage? The authors, two veteran maintenance and reliability experts, have collected all the essentials leading to reliability here, in one practical resource, connecting and sequencing the integral pieces for world-class reliability. Features Guides readers through the journey from classic reactive repair upon failure to reliable, proactive maintenance, engineered to preclude failure and, ultimately, to sustain reliability. Clarifies roles and responsibilities of involved functions while explaining control tools to be deployed by each position. Provides the overriding business justification required to gain senior management commitment.

Maintenance Excellence - John D. Campbell 2001-02-13
Considering maintenance from a proactive, rather than reactive, perspective, Maintenance Excellence details the strategies, tools, and solutions for maximizing the productivity of physical assets—focusing on profitability potential. The editors address contemporary concerns, key terms, data requirements, critical methodologies, and essential mathematical needs. They present maintenance in a business context, review planning, measurement, feedback, and techniques related to cost, efficiency, and results, and summarize applications of tools and software from statistics and neural networks to cost-optimized models.

Physical Asset Management - Nicholas Anthony John Hastings 2021-01-12
This book presents a systematic approach to the management of physical assets from concept to disposal, building upon the previous editions and brought up-to-date with the new international standards ISO55002 and ISO/TS50010. It introduces the general principles of physical asset management and covers all stages of the asset management process, including initial business appraisal, identification of physical asset needs, capability gap analysis, financial evaluation, logistic support analysis, life cycle costing, strategic asset management planning, maintenance strategy, outsourcing, cost-benefit analysis, disposal and renewal. Features include: providing a textbook for asset management courses to university level; relating closely to the ISO55000 international asset management standard series; providing a basis for the establishment of physical asset management as a professional discipline; and presenting case studies, analytical techniques and numerical examples with solutions. Written for practitioners and students in asset management, this book provides an essential foundation to the topic. It is suitable for an advanced undergraduate or postgraduate course in asset management and also offers an ideal reference text for engineers and managers specializing in asset management, reliability, maintenance, logistics or systems engineering.

Reliability-centered Maintenance - John Moubray 2001
Completely reorganised and comprehensively rewritten for its second edition, this guide to reliability-centred maintenance develops techniques which are practised by over 250 affiliated organisations worldwide.

Centered on Excellence - Darrin Wikoff 2012-07-16

Planning and Control of Maintenance Systems - Salih O. Duffuaa 2015-07-11
Analyzing maintenance as an integrated system with objectives, strategies and processes that need to be planned, designed, engineered, and controlled using statistical and optimization techniques, the theme of this book is the strategic holistic system approach for maintenance. This approach enables maintenance decision makers to view maintenance as a provider of a competitive edge not a necessary evil. Encompassing maintenance systems; maintenance strategic and capacity planning, planned and preventive maintenance, work measurements and standards, material (spares) control, maintenance operations and control, planning and scheduling, maintenance quality, training, and others, this book gives readers an understanding of the relevant methodology and how to apply it to real-world problems in industry. Each chapter includes a number exercises and is suitable as a textbook or a reference for a professionals and practitioners whilst being of interest to industrial engineering, mechanical engineering, electrical engineering, and industrial management students. It can also be used as a textbook for short courses on maintenance in industry. This text is the second edition of the book, which has four new chapters added and three chapters are revised substantially to reflect development in maintenance since the publication of the first edition. The new chapters cover reliability centered maintenance, total productive maintenance, e-maintenance and maintenance performance, productivity and continuous improvement.

Failure Modes to Failure Codes - John Reeve 2017-12-11

Maintenance Strategy - Anthony Kelly 1997-10
Devising optimal strategy for maintaining industrial plant can be a difficult task of daunting complexity. This book aims to provide the plant engineer with a comprehensive approach for tackling this problem, that is, for deciding maintenance objectives, formulating equipment life plans and plant maintenance schedules, and others.