

Root Cause Analysis For Power Plants Power Plant Maintenance Book 1

When the challenge is to get to the heart of a problem, you need a simple and efficient cause investigation methodology. And what would make a real difference would be an interactive map to lead you to the answer every time. Chester Rowe's *Simplifying Cause Analysis: A Structured Approach* is your instruction book combined with the included downloadable Interactive Cause Analysis Tool you have been looking for. The author intends this book for professionals like you, who have some familiarity with cause analysis projects and are looking for a simple and efficient cause investigation methodology – is a more effective and insightful way of asking “why?” Introducing his multi-function event investigation tool, Chester Rowe says, “There are already many scientific tools to help us understand the physical causes for machine failures; the challenge now is to find a way of investigating human performance failure modes...humans are often a major source of slips, lapses, and mistakes.” Supporting his instructions with diagrams, charts, and real-world examples from companies like yours, the author takes you step-by-step through planning, completing, and documenting your investigation: Chapter 1 gives you a process to determine the level of effort that your investigation should encompass, assess the level of effort needed, and determine the rigor needed. Your investigation needs to be as risk-informed as possible. Chapters 2 through 5 presents a new and innovative structure – rigorous yet intuitively easy to remember – to identify the underlying causes for the event (Cause Road Maps) and conduct the investigation. Chapter 6 introduces conceptual human performance models and tells you how to begin focusing on the human behaviors involved. Chapters 7 and 8 present you with methods, tools, and techniques for carefully interviewing personnel. Chapters 9 through 13 “put the pieces together,” showing you how to analyze and model the event, determine corrective action, and document the investigations and findings. Chester Rowe developed the Cause Road Map over many years to provide a comprehensive taxonomy for every cause investigation. However, fully implementing the Cause Road Map requires the use of other tools to organize, analyze, and present the final results of your investigation. To get you started, Rowe includes his downloadable Interactive Cause Analysis Tool – an easy-to-use tool in familiar spreadsheet format – free with your verified purchase of the book.

This paper examines the role of organizational and management factors in nuclear power plant safety through the use of operating experiences. The ASSET (Assessment of Safety Significant Events Team) reports of thirteen plants (total thirty events) have been analyzed in term of twenty organizational dimensions (factors) identified by Brookhaven National Laboratory and Pennsylvania State University. For three plants detailed results are reported in this paper. The results of thirteen plants are summarized in the form of a table. The study tends to confirm that organizational and management

factors play an important role in plant safety. The twenty organizational dimensions and their definitions, in general, were adequate in this study. Formalization, Safety Culture, Technical Knowledge, Training, Roles-Responsibilities and Problem Identification appear to be key organizational factors which influence the safety of nuclear power plants studied. For many years, as a direct result of international governmental concern, the nuclear power industry has been at the forefront of industrial safety. This text represents a cross-disciplinary look at the human factors developments in this industry, with wider applications for the entire industrial sector. Technical, psychological and social aspects
This 1991 book is a major theoretical integration of several previously isolated literatures looking at human error in major accidents.

The purpose of this book is to share what the author has learned about effective problem solving by exposing the ineffectiveness of conventional wisdom and presenting a principle-based alternative called Apollo Root Cause Analysis that is robust, yet familiar and easy to understand. This book will change the way readers understand the world without changing their minds. One of the most common responses the author has received from his students of Apollo Root Cause Analysis is they have always thought this way, but did not know how to express it. Other students have reported a phenomenon where this material fundamentally "re-wires" their thinking, leading to a deeply profound understanding of our world. At the heart of this book is a new way of communicating that is revolutionizing the way people all around the world think, communicate, and make decisions together. Imagine a next decision-making meeting where everyone is in agreement with the causes of the problem and the effectiveness of the proposed corrective actions with no conflicts, arguments, or power politics! This is the promise of Apollo Root Cause Analysis.

Are you trying to improve performance, but find that the same problems keep getting in the way? Safety, health, environmental quality, reliability, production, and security are at stake. You need the long-term planning that will keep the same issues from recurring. Root Cause Analysis Handbook: A Guide to Effective Incident Investigation is a powerful tool that gives you a detailed step-by-step process for learning from experience. Reach for this handbook any time you need field-tested advice for investigating, categorizing, reporting and trending, and ultimately eliminating the root causes of incidents. It includes step-by-step instructions, checklists, and forms for performing an analysis and enables users to effectively incorporate the methodology and apply it to a variety of situations. Using the structured techniques in the Root Cause Analysis Handbook, you will: Understand why root causes are important. Identify and define inherent problems. Collect data for problem-solving. Analyze data for root causes. Generate practical recommendations. The third edition of this global classic is the most comprehensive, all-in-one package of book, downloadable resources, color-coded RCA map, and licensed access to online resources currently available for Root Cause Analysis (RCA). Called by users "the

best resource on the subject" and "in a league of its own." Based on globally successful, proprietary methodology developed by ABS Consulting, an international firm with 50 years' experience in 35 countries. Root Cause Analysis Handbook is widely used in corporate training programs and college courses all over the world. If you are responsible for quality, reliability, safety, and/or risk management, you'll want this comprehensive and practical resource at your fingertips. The book has also been selected by the American Society for Quality (ASQ) and the Risk and Insurance Society (RIMS) as a "must have" for their members.

With its easy-to-read writing style, Productivity and Reliability-Based Maintenance Management provides a strong yet practical foundation on Total Productive Maintenance (TPM). This comprehensive practical guide departs from the wait-failure-emergency repair cycle that plagues many industries today. Instead, this text takes a proactive and productive maintenance approach, focusing on how to avoid failure in the first place. By using real-world case studies in every chapter, the author reinforces the importance of sound and proactive maintenance practices. The use of end-of-chapter problems and discussion questions helps to solidify concepts presented. Productivity and Reliability-Based Maintenance Management is a powerful educational tool for students as well as maintenance professionals and managers. This volume was previously published under the same title in 2004 by Pearson Education, and has been reprinted with permission through an arrangement with the author.

This book brings together successful stories of deployment of synchrophasor technology in managing the power grid. The authors discuss experiences with large scale deployment of Phasor Measurement Units (PMUs) in power systems across the world, enabling readers to take this technology into control center operations and develop good operational procedures to manage the grid better, with wide area visualization tools using PMU data.

Over 19,000 total pages ... Public Domain U.S. Government published manual: Numerous illustrations and matrices. Published in the 1990s and after 2000. TITLES and CONTENTS: ELECTRICAL SCIENCES - Contains the following manuals: Electrical Science, Vol 1 - Electrical Science, Vol 2 - Electrical Science, Vol 3 - Electrical Science, Vol 4 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 1 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 2 - Thermodynamics, Heat Transfer, And Fluid Flow, Vol 3 - Instrumentation And Control, Vol 1 - Instrumentation And Control, Vol 2 Mathematics, Vol 1 - Mathematics, Vol 2 - Chemistry, Vol 1 - Chemistry, Vol 2 - Engineering Symbolology, Prints, And Drawings, Vol 1 - Engineering Symbolology, Prints, And Drawings, Vol 2 - Material Science, Vol 1 - Material Science, Vol 2 - Mechanical Science, Vol 1 - Mechanical Science, Vol 2 - Nuclear Physics And Reactor Theory, Vol 1 - Nuclear Physics And Reactor Theory, Vol 2. CLASSICAL PHYSICS - The Classical Physics Fundamentals includes information on the units used to measure physical properties; vectors, and how they are used to show the net effect of

various forces; Newton's Laws of motion, and how to use these laws in force and motion applications; and the concepts of energy, work, and power, and how to measure and calculate the energy involved in various applications. * Scalar And Vector Quantities * Vector Identification * Vectors: Resultants And Components * Graphic Method Of Vector Addition * Component Addition Method * Analytical Method Of Vector Addition * Newton's Laws Of Motion * Momentum Principles * Force And Weight * Free-Body Diagrams * Force Equilibrium * Types Of Force * Energy And Work * Law Of Conservation Of Energy * Power – ELECTRICAL SCIENCE: The Electrical Science Fundamentals Handbook includes information on alternating current (AC) and direct current (DC) theory, circuits, motors, and generators; AC power and reactive components; batteries; AC and DC voltage regulators; transformers; and electrical test instruments and measuring devices. * Atom And Its Forces * Electrical Terminology * Units Of Electrical Measurement * Methods Of Producing Voltage (Electricity) * Magnetism * Magnetic Circuits * Electrical Symbols * DC Sources * DC Circuit Terminology * Basic DC Circuit Calculations * Voltage Polarity And Current Direction * Kirchhoff's Laws * DC Circuit Analysis * DC Circuit Faults * Inductance * Capacitance * Battery Terminology * Battery Theory * Battery Operations * Types Of Batteries * Battery Hazards * DC Equipment Terminology * DC Equipment Construction * DC Generator Theory * DC Generator Construction * DC Motor Theory * Types Of DC Motors * DC Motor Operation * AC Generation * AC Generation Analysis * Inductance * Capacitance * Impedance * Resonance * Power Triangle * Three-Phase Circuits * AC Generator Components * AC Generator Theory * AC Generator Operation * Voltage Regulators * AC Motor Theory * AC Motor Types * Transformer Theory * Transformer Types * Meter Movements * Voltmeters * Ammeters * Ohm Meters * Wattmeters * Other Electrical Measuring Devices * Test Equipment * System Components And Protection Devices * Circuit Breakers * Motor Controllers * Wiring Schemes And Grounding THERMODYNAMICS, HEAT TRANSFER AND FLUID FUNDAMENTALS. The Thermodynamics, Heat Transfer, and Fluid Flow Fundamentals Handbook includes information on thermodynamics and the properties of fluids; the three modes of heat transfer - conduction, convection, and radiation; and fluid flow, and the energy relationships in fluid systems. * Thermodynamic Properties * Temperature And Pressure Measurements * Energy, Work, And Heat * Thermodynamic Systems And Processes * Change Of Phase * Property Diagrams And Steam Tables * First Law Of Thermodynamics * Second Law Of Thermodynamics * Compression Processes * Heat Transfer Terminology * Conduction Heat Transfer * Convection Heat Transfer * Radiant Heat Transfer * Heat Exchangers * Boiling Heat Transfer * Heat Generation * Decay Heat * Continuity Equation * Laminar And Turbulent Flow * Bernoulli's Equation * Head Loss * Natural Circulation * Two-Phase Fluid Flow * Centrifugal Pumps INSTRUMENTATION AND CONTROL. The Instrumentation and Control Fundamentals Handbook includes information on temperature, pressure, flow, and level detection systems; position indication systems; process

control systems; and radiation detection principles. * Resistance Temperature Detectors (Rtds) * Thermocouples * Functional Uses Of Temperature Detectors * Temperature Detection Circuitry * Pressure Detectors * Pressure Detector Functional Uses * Pressure Detection Circuitry * Level Detectors * Density Compensation * Level Detection Circuitry * Head Flow Meters * Other Flow Meters * Steam Flow Detection * Flow Circuitry * Synchro Equipment * Switches * Variable Output Devices * Position Indication Circuitry * Radiation Detection Terminology * Radiation Types * Gas-Filled Detector * Detector Voltage * Proportional Counter * Proportional Counter Circuitry * Ionization Chamber * Compensated Ion Chamber * Electroscope Ionization Chamber * Geiger-Müller Detector * Scintillation Counter * Gamma Spectroscopy * Miscellaneous Detectors * Circuitry And Circuit Elements * Source Range Nuclear Instrumentation * Intermediate Range Nuclear Instrumentation * Power Range Nuclear Instrumentation * Principles Of Control Systems * Control Loop Diagrams * Two Position Control Systems * Proportional Control Systems * Reset (Integral) Control Systems * Proportional Plus Reset Control Systems * Proportional Plus Rate Control Systems * Proportional-Integral-Derivative Control Systems * Controllers * Valve Actuators

MATHEMATICS The Mathematics Fundamentals Handbook includes a review of introductory mathematics and the concepts and functional use of algebra, geometry, trigonometry, and calculus. Word problems, equations, calculations, and practical exercises that require the use of each of the mathematical concepts are also presented. * Calculator Operations * Four Basic Arithmetic Operations * Averages * Fractions * Decimals * Signed Numbers * Significant Digits * Percentages * Exponents * Scientific Notation * Radicals * Algebraic Laws * Linear Equations * Quadratic Equations * Simultaneous Equations * Word Problems * Graphing * Slopes * Interpolation And Extrapolation * Basic Concepts Of Geometry * Shapes And Figures Of Plane Geometry * Solid Geometric Figures * Pythagorean Theorem * Trigonometric Functions * Radians * Statistics * Imaginary And Complex Numbers * Matrices And Determinants * Calculus

CHEMISTRY The Chemistry Handbook includes information on the atomic structure of matter; chemical bonding; chemical equations; chemical interactions involved with corrosion processes; water chemistry control, including the principles of water treatment; the hazards of chemicals and gases, and basic gaseous diffusion processes. * Characteristics Of Atoms * The Periodic Table * Chemical Bonding * Chemical Equations * Acids, Bases, Salts, And Ph * Converters * Corrosion Theory * General Corrosion * Crud And Galvanic Corrosion * Specialized Corrosion * Effects Of Radiation On Water Chemistry (Synthesis) * Chemistry Parameters * Purpose Of Water Treatment * Water Treatment Processes * Dissolved Gases, Suspended Solids, And Ph Control * Water Purity * Corrosives (Acids And Alkalies) * Toxic Compound * Compressed Gases * Flammable And Combustible Liquids

ENGINEERING SYMBOLOGY. The Engineering Symbology, Prints, and Drawings Handbook includes information on engineering fluid drawings and prints; piping and instrument drawings; major symbols and conventions;

electronic diagrams and schematics; logic circuits and diagrams; and fabrication, construction, and architectural drawings. * Introduction To Print Reading * Introduction To The Types Of Drawings, Views, And Perspectives * Engineering Fluids Diagrams And Prints * Reading Engineering P&IDs * P&ID Print Reading Example * Fluid Power P&IDs * Electrical Diagrams And Schematics * Electrical Wiring And Schematic Diagram Reading Examples * Electronic Diagrams And Schematics * Examples * Engineering Logic Diagrams * Truth Tables And Exercises * Engineering Fabrication, Construction, And Architectural Drawings * Engineering Fabrication, Construction, And Architectural Drawing, Examples MATERIAL SCIENCE. The Material Science Handbook includes information on the structure and properties of metals, stress mechanisms in metals, failure modes, and the characteristics of metals that are commonly used in DOE nuclear facilities. * Bonding * Common Lattice Types * Grain Structure And Boundary * Polymorphism * Alloys * Imperfections In Metals * Stress * Strain * Young's Modulus * Stress-Strain Relationship * Physical Properties * Working Of Metals * Corrosion * Hydrogen Embrittlement * Tritium/Material Compatibility * Thermal Stress * Pressurized Thermal Shock * Brittle Fracture Mechanism * Minimum Pressurization-Temperature Curves * Heatup And Cooldown Rate Limits * Properties Considered * When Selecting Materials * Fuel Materials * Cladding And Reflectors * Control Materials * Shielding Materials * Nuclear Reactor Core Problems * Plant Material Problems * Atomic Displacement Due To Irradiation * Thermal And Displacement Spikes * Due To Irradiation * Effect Due To Neutron Capture * Radiation Effects In Organic Compounds * Reactor Use Of Aluminum MECHANICAL SCIENCE. The Mechanical Science Handbook includes information on diesel engines, heat exchangers, pumps, valves, and miscellaneous mechanical components. * Diesel Engines * Fundamentals Of The Diesel Cycle * Diesel Engine Speed, Fuel Controls, And Protection * Types Of Heat Exchangers * Heat Exchanger Applications * Centrifugal Pumps * Centrifugal Pump Operation * Positive Displacement Pumps * Valve Functions And Basic Parts * Types Of Valves * Valve Actuators * Air Compressors * Hydraulics * Boilers * Cooling Towers * Demineralizers * Pressurizers * Steam Traps * Filters And Strainers NUCLEAR PHYSICS AND REACTOR THEORY. The Nuclear Physics and Reactor Theory Handbook includes information on atomic and nuclear physics; neutron characteristics; reactor theory and nuclear parameters; and the theory of reactor operation. * Atomic Nature Of Matter * Chart Of The Nuclides * Mass Defect And Binding Energy * Modes Of Radioactive Decay * Radioactivity * Neutron Interactions * Nuclear Fission * Energy Release From Fission * Interaction Of Radiation With Matter * Neutron Sources * Nuclear Cross Sections And Neutron Flux * Reaction Rates * Neutron Moderation * Prompt And Delayed Neutrons * Neutron Flux Spectrum * Neutron Life Cycle * Reactivity * Reactivity Coefficients * Neutron Poisons * Xenon * Samarium And Other Fission Product Poisons * Control Rods * Subcritical Multiplication * Reactor Kinetics * Reactor

Undesirable outcomes, chronic failure, incidents, and accidents The cost of such events to corporations is high, generally adding up to tens and hundreds of millions of dollars in "accepted" losses. Why accept these losses? What if you could understand why these errors occur and eliminate chronic events from occurring altogether? Root Cause

Each year billions of dollars are being spent in the area of nuclear power generation to design, construct, manufacture, operate, and maintain various types of systems around the globe. Many times these systems fail due to safety, reliability, human factors, and human error related problems. The main objective of this book is to combine nuclear power plant safety, reliability, human factors, and human error into a single volume for those individuals that work closely during the nuclear power plant design phase, as well as other phases, thus eliminating the need to consult many different and diverse sources in obtaining the desired information.

Utility-oriented Approach for Root-cause Analysis of Power Plant Equipment ProblemsFinal ReportRoot Cause Analysis HandbookA Guide to Efficient and Effective Incident InvestigationRothstein Publishing

This book describes the methods and tools used to develop and implement an effective TQM program. it provides a practical explanation of root cause analysis and discusses the proactive use of analysis techniques for the prediction and prevention of problems. it emphasizes the basic concepts, various analysis techniques, and their common purpose in determining the true cause of problems.

The third edition of this global classic is the most comprehensive, all-in-one package of book, downloadable resources, color-coded RCA map, and online resources currently available for Root Cause Analysis (RCA). Called by users "the best resource on the subject" and "in a league of its own." The package offers the unique breadth, depth and practicality that can only come from six authors with 125+ years of combined international RCA consulting experience. It presents a globally successful, proprietary methodology developed by an international consulting firm with 50 years' experience in 35 countries. Reach for it anytime you need field-tested advice for investigating, categorizing, reporting and trending, and ultimately eliminating the root causes of incidents with quality, reliability, environmental, health, safety, and production-process impacts. The total package includes: 300-page Handbook focusing on rigorous application of structured techniques for both apparent cause analyses and root cause analyses. It includes step-by-step instructions, checklists, and forms for performing an analysis and enables users to effectively incorporate the methodology and apply it to a variety of situations. There are numerous incident, facility and industry-specific examples plus 120+ figures and tables. Downloadable Resources Toolkit, including examples of cause and effect Trees and a sample template; examples of cause and effect Timelines and a sample template; toolkits for Investigating, Data Gathering, Data Analysis, etc.; plentiful forms and checklists; field-tested toolkit ABS Consulting uses in its projects that you can adapt for your own RCA/incident investigation program; and a resource list of recommended books, websites, organizations, etc. Root Cause Map (full color-coded wall chart 17" x 22")—a powerful tool for staff to use in identifying and coding root causes. Licensed access to ABS Consulting website for an abundant collection of articles, up to date examples, charts, forms, etc. Root Cause Analysis Handbook is widely used in corporate training programs and college courses all over the world. If you are responsible for quality, reliability, safety, and/or risk management, you'll want this comprehensive and practical resource at your fingertips. The book has been selected by the American Society for Quality (ASQ) and the Risk and Insurance Society (RIMS).

The research-practice gap is a persistent problem in healthcare - significant new knowledge is created but only some of it is shared and even less is used. As a consequence, many innovative ideas fail to change practice in healthcare settings. Academics, practitioners, and

governments alike, agree that finding new ways of mobilizing knowledge is critical to reducing this gap. Yet knowledge mobilization is especially difficult in such a complex setting. This is because knowledge is essentially social and contextual in its very nature. Straightforward, linear 'transfer' models fail to work. This book provides an alternative 'knowledge mobilization' view, that examines in detail how knowledge is circulated and negotiated among those involved in healthcare, and how it is used to actually transform practice. Building on the collective scholarship of some of the most prominent academics in this area, the chapters explore the dynamics of knowledge mobilization, focusing on the challenges these pose for organization and management and how these challenges can be overcome. This A-to-Z, hands-on guidebook addresses the responsibilities, principles, tools and techniques involved in accident investigation and loss control. It blends theory and applications and takes the reader from investigative planning and preparation through the various methods and equipment used, all the way to system safety applications. It covers a myriad of accident prevention techniques, which have been in use by the safety community for many years. The information and illustrations included in this book will allow the reader to begin to develop and build a safety and health program in the workplace. Detailed information is included on: * safety analysis * job safety observations * safety and health tracking * safe operating procedures * root, change, casual, and barrier analysis * resource and information sources This book is applicable to a wide range of occupations since there are no risk free workplaces. It is especially written for occupational safety and health professionals who addresses these issues at work and will also be an excellent source of study for training practitioners and students of this discipline.

What is RCA? It seems like such an easy question to answer, yet from novices to veterans and practitioners to providers, no one seems to have come to agreement or consensus on an acceptable definition for the industry. Now in its fourth edition, *Root Cause Analysis: Improving Performance for Bottom-Line Results* discusses why it is so hard to get su This work investigates the root causes of the incidence of solder flux residue underneath electronic components in the manufacture of power modules. The existing deionized water-based centrifugal cleaning process was analyzed and hypotheses for root causes of the problem were proposed. The experimentation included cleaning tests using agitation and soak cycles. Parameters such as chemical agent, time and temperature were also tested for these tests. A novel method of residue incidence determination using visual inspection was proposed. Results suggest that the centrifugal process with water is incapable of providing enough agitation to effectively clean the residue. It was also found that product design and architectural causes greatly contribute to cleaning process effectiveness. It was concluded that effective printed circuit board cleaning requires high agitation and efficient product design.

Although there are many books on root cause analysis (RCA), most concentrate on team actions such as brainstorming and using quality tools to discuss the failure under investigation. These may be necessary steps during RCA, but authors often fail to mention the most important member of an RCA team—the failed part. *Root Cause Analysis: A Step-By-Step*

Guide to Using the Right Tool at the Right Time provides authoritative guidance on how to empirically investigate quality failures using scientific method in the form of cycles of plan-do-check-act (PDCA), supported by the use of quality tools. Focusing on the use of proven quality tools to empirically investigate issues, the book starts by describing the theoretical background behind using the scientific method and quality tools for RCA. Next, it supplies step-by-step instructions for performing RCA with the tools discussed in the first section. The book's clear examples illustrate how to integrate PDCA with the scientific method and quality tools when investigating real-world quality failures. This RCA guide provides root cause investigators with a tool kit for the quick and accurate selection of the appropriate tool during a root cause investigation. It includes an appendix with a guide to tool selection based on the intended use of the tool. There is also an appendix that defines the terminology used in the book. After reading this book, you will understand how to integrate the scientific method, quality tools, and statistics, in the form of exploratory data analysis, to build a picture of the actual situation under investigation that will lead you to the true root cause of an event. The tools and concepts presented in the text are appropriate for professionals in both the manufacturing and service industries.

It is critical to improve the asset management system implementation as well as economics and industrial decision making to ensure that a business may move smoothly internally. Maintenance management should be aligned to the activities of maintenance in accordance with key business strategies, which must be designed under the comprehensive approach of an asset management process. After transforming the priorities of the business into priorities of maintenance, maintenance managers will use their medium-term strategies to tackle potential weaknesses in the maintenance of the equipment in accordance with these objectives. Cases on Optimizing the Asset Management Process explains and summarizes the processes and the reference frame necessary for the implementation of the Maintenance Management Model (MMM). This book acts as an overview of the current state of the art in asset management, providing innovative tools and practices from the fourth industrial revolution. Presenting topics like criticality analysis, physical asset maintenance, and unified modelling language, this text is essential for industrial and manufacturing engineers, plant supervisors, academicians, researchers, advanced-level students, technology developers, and managers who make decisions in this field.

A failure or accident brings your business to a sudden halt. How did it happen? What's at the root of the problem? What keeps it from happening again? Industry pioneer Fred Forck's 7-step cause analysis methodology guides you to the root of the incident, enabling you to act effectively to avoid loss of time, money, productivity, & quality.

"In the case of an event at a nuclear installation it is important to accurately determine the root causes, in order to allow corrective actions to be implemented to address them and prevent their recurrence. There are different analysis tools, techniques and methods available which can be used to evaluate the root causes of events and this publication presents a comprehensive reference manual of them and allows

organizations to deepen their knowledge of these instruments. In addition, it also provides new organizations with a broad overview of the root cause analysis process. The present manual is also intended to provide guidance to all organizations establishing a new process for root cause analysis, especially in countries embarking upon a nuclear power programme."--Publisher's description.

Root Cause Analysis Handbook: A Guide to Effective Incident Investigation presents a proven system designed for investigating, categorizing, and ultimately eliminating, root causes of incidents with safety, health, environmental, quality, reliability, and production-process impacts. Defined as a tool to help investigators describe what happened, to determine how it happened, and to understand why it happened, the Root Cause Analysis System enables businesses to generate specific, concrete recommendations for preventing incident recurrences. Using the factual data of the incident, the system also allows quality, safety, and risk and reliability managers an opportunity to implement more reliable and more cost-effective policies that result in major, long-term opportunities for improvement. Such process improvements increase a business' ability to recover from and prevent disasters with both financial and health-and-safety implications. Special features include a 17 inch by 22 inch pull-out Root Cause Map, a powerful tool for identifying and coding root causes. The book helps readers to understand why root causes are important, to identify and define inherent problems, to collect data for problem solving, to analyze data for root causes, and to generate practical recommendations. - - - - - This edition is a reprinting of the 199 edition. - - - - - ORGANIZATION OF THE ROOT CAUSE ANALYSIS HANDBOOK The focus of this handbook is on the application of the Root Cause Map to the root cause analysis process. The Root Cause Map is used in one of the later steps of the root cause analysis process to identify the underlying management systems that caused the event to occur or made the consequences of the event more severe. The first five chapters of this handbook are an overview of the root cause analysis process. These provide the context for use of the Root Cause Map. Chapter 6 provides references. Chapter 1, "Introduction to Root Cause Analysis," presents a basic overview of the SOURCE (Seeking Out the Underlying Root Causes of Events) root cause analysis process. Chapter 2, "Collecting and Preserving Data for Analysis," outlines the types of data and data sources that are available. Chapters 3, 4, and 5 describe the three major steps in the root cause analysis process. Chapter 3, "Data Analysis Using Causal Factor Charting," provides a step-by-step description of causal factor charting techniques. Chapter 4, "Root Cause Identification," explains the organization and use of the Root Cause Map. Chapter 5, "Recommendation Generation and Implementation," provides guidance on developing and implementing corrective actions. The references section, Chapter 6, provides additional information for those interested in learning more about specific items contained in the handbook. Appendix A, "Root Cause Map Node Descriptions," describes each segment of the Root Cause Map and presents detailed descriptions of the individual nodes on the map. Appendix B is the Root Cause Map itself.

Published more than ten years ago, the first edition of Accident/Incident Prevention Techniques provided clear, comprehensive guidance on how to mitigate the cost, in personnel and to the bottom line, of accidents/incidents in the workplace. Significantly revised and updated, this Second Edition takes its place as the A to Z hands-on guide to the responsibilities, principles, tools, and techniques involved in accident investigative planning and preparation. Written by safety expert Charles D. Reese, the book details tried and true techniques that have been used by the occupational safety and health community for many years. It also presents the best theoretical methods to help those responsible for occupational safety develop the best prevention initiative for them and their workforce. Based on the premise that all businesses and industries must face the reality that occupational accidents and illnesses will transpire and the results of these events will have a negative impact on the company's bottom line, the book provides practical examples, easy-to-implement processes, numerous illustrations, and

usable forms throughout. See What's New in the Second Edition Topics such as safety culture and behavior-based safety Expanded coverage of some topics such as analysis tools and accident investigation Updated statistical data, sources, and contacts Updated changes in regulations and compliance Relevance with current trends and issues in accident prevention By investigating the various methods and equipment used in system safety applications, the book covers a myriad of accident/incident prevention techniques and supplies the illustrations and tools that allow readers to begin to develop and build a safety and health program in their workplace. The author draws on his more than 30 years of experience to supply a template for the development of an effective safety and health program.

[Copyright: 5cfab771ed30b73d47f9b87943373d99](#)